

VI. *On the types of Oriental Carabidae in the British Museum, and in the Hope Department of the Oxford University Museum.* By H. E. ANDREWES.

[Read May 7th, 1919.]

By the term "Oriental Carabidae" I mean the species inhabiting India and South-Eastern Asia, including all the adjacent islands; the great majority, however, of those I shall deal with in this paper come from three well-defined areas, viz. Java (Macleay), Nepal (Hope), and Ceylon (Walker).

In going through the literature of the subject I have been much struck by the fact that the chief writers on it have been very imperfectly acquainted with the types—fairly numerous in the aggregate—which are in the British Museum and at Oxford. The reasons for this are not far to seek, for the descriptions of Hope and Walker rarely exceed a couple of lines, and as a means of identifying a species are of no value whatever. Macleay's descriptions, though a little fuller, are also very short. Consequently, entomologists, desiring to discuss the work of these authors, could only do so effectively by examining the actual types. Very few appear to have thought it worth while to do this, though Hope and Motchulsky examined the Fabrician types and published their observations. Schaum and Chaudoir both also saw the British Museum collections, but they relate next to nothing of what they saw there.

When H. W. Bates was writing his paper on the Carabidae collected by Mr. George Lewis in Ceylon, he was obliged to take note of Walker's work, though he evidently did so with reluctance. Walker's types are consequently better known than Hope's or Macleay's, though there still remains a good deal to clear up about them.

I propose to give a list of all the types I have been able to see, author by author, giving the synonymy where the species have been redescribed by later writers, and additional descriptions where they seem necessary. Such descriptions, however, are necessarily confined to characters which are readily visible, for no dissection is possible;

unfortunately the important mouth-parts are often obscured by dirt or gum, and antennae, palpi, tarsi, etc., are not infrequently wanting. I have tried to give fairly full references, and always quote the page of the works referred to: I mention this because some of the older writers gave numbers to their species, and quoted these numbers instead of the pages. In the case of each species I give the modern genus, followed where necessary by the original genus in a parenthesis.

I must express my thanks to Dr. Gahan for the courtesy extended to me in the Entomological Department at the British Museum, to Dr. Marshall for much valued help on nomenclature and many other matters, to Mr. J. H. Durrant and Mr. C. Davies Sherborn for assistance with ancient entomological literature and handwriting, and last but not least to Mr. G. J. Arrow, who has been unremitting in aiding me to solve the various problems encountered in dealing with the older types. My grateful thanks are also due to my old friend Prof. E. B. Poulton, who has been kind enough not only to afford me access to the collections in the Hope Department of the Oxford University Museum, but also to bring types up to London so that I might examine them at leisure and compare them with other material.

I. Types in the British Museum.

LINNAEUS.

Pheropsophus (Carabus) bimauculatus (Mant. Ins. 1771, 532). The type of this, the only Oriental species among the Carabidae described by Linnaeus is in the Museum of the Linnaean Society, where, through the courtesy of Dr. Daydon Jackson, I was enabled to see it. It is a well-known species, calling for no special comment. I believe it to be confined to the southern half of India, with Ceylon. A single specimen in the British Museum is labelled "Nepal," and Mr. Lesne (Miss. Pavie 1904, Col. 79) records the species from Laos: in each case, however, further evidence seems to be required.

FABRICIUS.

Fabricius in his various works published descriptions of insects in a great many different collections, so that the types of the species described are widely spread. Among the more important collections I may mention those of

Lund, Sehestedt, Banks, and Hunter; the two former are now in the University Museum at Copenhagen, the Banks Collection is in the British Museum, and the Hunter Collection in the Glasgow University Museum. The collection of Fabricius himself is in the Kiel University Museum. Among the Glasgow types there are none of Oriental Carabidae, so that my remarks will be confined to the specimens in the Banks Collection. These were seen by Hope (Col. Man. ii, 1838, 36-45), and lists are given of the Carabidae described by both Linnaeus and Fabricius, together with the localities, and the correct genera as known at that time. In his preface Hope says: "From my friend Dr. Erichson of Berlin I have lately received the offer of the loan of his Manuscripts on Fabrician Insects, in which are noted down many observations made during a careful examination of the Copenhagen Collections." I cannot, however, find any further reference to these notes in Hope's works, nor does Erichson appear to have published them. Schaum saw the Kiel and Copenhagen collections in 1845 and published some remarks on them. Neither he nor Erichson, however, give any intimation that they had examined the Banks Collection.

About ten years later Motchulsky made a tour including London, Kiel, and Copenhagen, where he examined the Linnaean and Fabrician types. The results of his examination will be found recorded at some length in his "Études Entomologiques" (vol. iv, 1855, 25-71). He seems also to have had the advantage of some notes made by Chevrolat during his residence at Kiel and Copenhagen.

Each of these authors has added something to our knowledge of the insects which Fabricius described, but there are still obscurities which, as far as the material in the Banks Collection goes, I shall do my best to remove. Accordingly I give below some notes on five Oriental species, and also—for special reasons—on a sixth species from West Africa.

1. *Anthia* (*Carabus*) *sexguttata* (Syst. Ent. 1775, 236). This well-known species, which seems to be confined to, and is also common throughout India, does not call for special comment. It has been redescribed by other entomologists under the following names, viz. *orientalis* (*Pachymorpha*) Hope (Col. Man. ii, 1838, 163, t. 3, f. 4), *indica* Chaud. (Bull. Mosc. 1861, ii, 562), and *elliptica* Motch. (Bull. Mosc. 1864, iii, 216), but these are at most

local forms. Some further remarks will be found under *A. orientalis* Hope.

2. *Luperca* (*Carabus*) *laevigata* (Spec. Ins. i, 1781, 304). The type of this species was not at first in evidence among the other Carabidae, but, knowing that it should be in the Banks Collection, I searched through some supplementary drawers and found it without much difficulty. The species was figured by Olivier (Ent. iii, 1795, 36, 7, t. 2, f. 18) under the name of *Scarites laevigatus*, and also by Lacordaire (Gen. Col. 1854, Atl. t. 6, f. 1). Dejean (Spec. Gen. v, 1831, 474) describes it under the name of *Enceladus laevigatus*. In Chaudoir's "Monographie des Siagonides" (Bull. Mosc. 1876, i, 74), it is redescribed as *Holoscelis laevigatus*. The species is well known, and, like the last, confined to India.

3. *Chlaenius* (*Carabus*) *cinctus* (Spec. Ins. i, 1781, 310). So far as my knowledge goes this species has never yet been correctly identified by any of the numerous writers who have referred to it, nor does Schaum or Motschulsky throw any light on the question.

The specimens taken by Mr. George Lewis in Ceylon, and determined by Bates (Ann. and Mag. of Nat. Hist. 5, xvii, 1886, 74) as *C. cinctus* Fab., agree well with the description of this species in Chaudoir's "Monographie des Chléniens" (Ann. Mus. Civ. Gen., 1876, 135), so that these two authors evidently mistook the same species for that described by Fabricius. Bates puts *C. pulcher* Nietn. (Journ. of the As. Soc. of Beng. v, 1856, 387) in synonymy: Chaudoir refers to *C. pulcher* in the index of his Monograph, but as there is no reference to the species on the page indicated, we are left in doubt as to his views. I think, however, this identification is probably correct, and in that case Nietner's name would stand for the wrongly identified species. Nietner's short description leaves some uncertainty, and I do not know where his types are to be found.

Other authors before Chaudoir's time redescribed the species, notably Herbst (Fuessly's Arch. v, 1784, 135, t. 29, f. 7), Olivier (Ent. iii, 1795, 35, 87, t. 3, f. 28)—who tells us that the species is found on the Coromandel Coast, and is very common in the southern departments of France—and Dejean (Spec. Gen. ii, 1826, 307). As there are several closely allied species, it is impossible to identify with any certainty those just mentioned until the type

specimens are available for examination. Olivier evidently had two species before him.

The type of *C. cinctus* is stated to have come from Coromandel, and there is one other example in the British Museum Collection labelled "E. Indies." In the Hope Department at Oxford there are two examples, one labelled "Madras" and the other "*sykesi* Hope, Poonah": the latter label is in Hope's handwriting, a curious circumstance, as *cinctus* has no connection whatever with *sykesi*, the type of which is at Oxford.

Since Fabricius gave his brief description no other has been published and I therefore give a more detailed version, amplified here and there by reference to the other specimens.

***Chlaenius cinctus* Fab., ♂.** Length 15 mill. Width 6 mill.

Head and prothorax green. Elytra black with faint green reflection. Labrum, palpi, antennae, legs (except trochanters, which are light brown, and coxae, which are dark brown), margin of elytra up to stria 8, epipleurae of elytra, and a narrow margin round the abdomen dull yellow. Underside black to very dark brown, iridescent, the margins of the ventral segments lighter brown. Pubescence greyish-yellow.

Front and vertex sparsely punctate, the latter more strongly at the sides behind; eyes moderately prominent. Prothorax not quite half as wide again as head, almost quadrate, slightly transverse, emarginate in front, almost straight behind, the sides rounded, sinuate before hind angles, and a little more contracted in front than behind, broadest a little before middle; front angles not much rounded, hind angles obtuse, but this is because the basal margin makes a slight bend forward on each side when near the angle; surface fairly flat, but declivous at front angles; puncturation strong especially over the basal third, not close, sparse on disk; reflexed border very narrow, a broad short shallow furrow near hind angles, transverse impressions nearly obsolete, central furrow very fine not reaching margins.

Elytra rather less than half as wide again as prothorax, nearly parallel, basal margin straight to base of fourth stria, then bending forwards to the shoulder, where it makes a very wide angle with the side margin, border narrow and only slightly sinuate near apex which is rounded; striae finely punctate-striate, intervals very faintly convex; the whole surface moderately punctate, the punctures laterally confluent, but not close enough to give the elytra an opaque appearance.

Metepisterna without furrow near outer margin; prosternal process faintly margined; underside punctate, rather closely along the sides of the ventral surface, more sparsely along its median line, on the prosternal process and the pro- and meso-episterna. Front femora without tooth; dilated joints of tarsi a little longer than wide, joint 1 elongate-triangular, 2 and 3 rectangular but contracted at base.

Surface of the body pubescent (type much rubbed), the pubescence being much closer on the elytra than on the head and thorax. Prosternal process glabrous between the coxae, with a tuft of erect hairs at the apex.

Closely allied to *C. chalthorax* Wied., but less elongate, with side margins of thorax more distinctly sinuate before hind angles; head and thorax more, but elytra less closely punctured. Antennae of lighter colour.

4. *Pheropsophus (Brachinus) tripustulatus* (Ent. Syst. i, 1792, 145). Bygone generations of Entomologists have been much exercised over this species. The trouble was originated by Westermann, who sent a Javanese insect to Dejean as "the veritable *Brachinus tripustulatus* of Fabricius." Actually it was nothing of the kind, and Dejean, in describing it under the name of *Helluo-tripustulatus* (Spec. Gen. i, 1825, 286), indicates his scepticism sufficiently clearly. Hope (Col. Man. ii, 1838, 101) remarks: "The specimens" [there seems to be only one] "in the Banksian Cabinet are decidedly of the genus *Pheropsophus*." Motschulsky (Et. Ent. 1855, 55) says: "D'après la Col. de Banks cette espèce est voisine du *Br. marginalis* Schönh., mais non un *Macrocheilus*, ainsi que c'est le cas pour l'exemplaire conservé dans la Col. de Copenhague." I gather from this that both he and Hope saw the type in the Banks Collection; also that in the Copenhagen Collection a *Macrochilus* figures as the Fabrician insect. No further effort seems to have been made to elucidate the matter, and among the specimens in the Banks Collection I found, indicated as "type?", three examples of the species at present known as *Macrochilus bensoni* Hope (but see under OLIVIER), the continental representative of Dejean's *Macrochilus (Helluo) tripustulatus*. On one of these examples is a note by the late C. O. Waterhouse dated 2. x. 1883: "These specimens were found in the Supplementary drawer at end of Banks Coll. with no label." The description, however, left little

doubt in my mind that the insect described by Fabricius was a *Pheropsophus*, and in going through the supplementary drawers again I discovered a specimen of that genus bearing the label "*tripustulatus*"—no doubt the type specimen from which the description was drawn up.

In the Transactions of 1901 Mr. G. J. Arrow reviewed the genus *Pheropsophus*, and described some new species. He also had the opportunity of comparing specimens in the British Museum Collection with some of Chaudoir's types. A specimen labelled "India (Bowing Coll.)," was found by Mr. Arrow, after comparison with the type, to be identical with Chaudoir's *P. amoenus* (Bull. Mosc. 1850, i, 78). This specimen agrees well with *tripustulatus*, which name accordingly replaces Chaudoir's. The type came from Siam; Chaudoir did not know the locality of his *P. amoenus*. I have not seen any other specimens.

5. *Craspedophorus* (*Carabus*) *angulatus*. I suppose few species have given rise to such a Comedy of Errors as this one. The specimen in the Banks Collection was originally described by Fabricius in Spec. Ins. i, 1781, 302, and the description reappeared in Mant. Ins. i, 1787, 197, and Ent. Syst. i, 1792, 148. In Syst. Eleuth. i, 1801, 203, the name reappears, but the insect is a totally different one. I am not sure that it has been identified with certainty, but there seems little doubt that it is the same thing as Dejean's *Pachytrachelus* (*Agonoderus*) *oblongus* (Spec. Gen. v, 1831, 813).

To add to the confusion another example of *angulatus* (1781) served as type for *Pimelia fasciata* (Spec. Ins. i, 1781, 318; Mant. Ins. i, 1787, 209; Ent. Syst. i, 1792, 104). I have not had the opportunity of seeing the type, but I see no reason to doubt the identity of the two species. (See further remarks under the next species *Craspedophorus reflexus*.)

Vigors next described the species (Zool. Journ. i, 1824, 537, t. 20, f. 1) under the name of *Panagaeus tomentosus*, and this name was subsequently adopted by Dejean (Spec. Gen. ii, 1826, 284, and v, 1831, 598) and Laferté (Ann. Soc. Ent. Fr. 1851, 220). The type specimen described by Vigors is in the British Museum collection.

It was left to Chaudoir, however, to render confusion worse confounded. He first of all described the genus *Epicosmus* (Bull. Mosc. 1846, iv, 512 (note)) expressly for this species. In his "Révision des espèces qui rentrent

dans l'ancien genre *Panagaeus*" (Bull. Mosc. 1861, iv, 336) he changes Fabricius' *fasciata* to *bifasciata*, but the other references are correct, and we have *Epicosmus angulatus* Fab. = *Panagaeus tomentosus* Vig. = *Pimelia bifasciata* Fab.

Later on in his "Essai monographique sur les Panagéides" (Ann. Soc. Ent. Belg. xxi, 1878, 133), not only is the species allotted to a new genus, but the name of *angulatus* has disappeared and we have only *Eudema bifasciatum* Fab. = *Panagaeus tomentosus* Vig. Having thus eliminated the correct name and introduced an erroneous one, Chaudoir makes his own error the pretext for changing Castelnau's *Craspedophorus bifasciatus* into *C. castelnaui* Chaud. (Some remarks on Chaudoir's Monograph will be found under the next species.)

The species is common in South India, without apparently extending to Ceylon. There is an example in the British Museum labelled "Nepal," and two examples at Oxford labelled "Assam" and "Siam" respectively, but these indications seem to me doubtful.

6. *Craspedophorus* (*Carabus*) *reflexus*. Although this is an African species, it was described as coming from India, and references to it in entomological literature are so wide of the mark that I refer to it here. Before doing so I must say a few words to illustrate Chaudoir's remarkable proceedings when preparing his "Monographie sur les Panagéides" (Ann. Soc. Ent. Belg. xxi, 1878). *Panagaeus* was described by Latreille (Hist. Nat. Crust. et Ins. iii, 1802, 91) and was used for many years as the genus of most of the then known species of the group. Hope (Col. Man. ii, 1838, 165) described the genus *Craspedophorus* for Fabricius' *Cychrus reflexus*, and, although his reference to the species is erroneous, his description of the genus shows clearly that he had the type before him, and moreover he gives (t. 3, f. 1) a figure, which, except for the outline of the thorax, fairly represents it. Two years later Castelnau (Hist. Nat. Ins. i, 1840, 137) indicated rather than described his genus *Eudema* for *Panagaeus regalis* Gory (Ann. Soc. Ent. Fr. 1833, 213) from Senegal and *C. reflexus* Fab., which he makes a synonym of *P. nobilis* Dej. (Spec. Gen. v, 1831, 598) from the Cape of Good Hope; the two last-named species are quite different and probably it was *P. nobilis* he had before him. Chaudoir (Bull. Mosc. 1846, iv, 512 (note)) described his genus

Epicosmus for *P. tomentosus*, by which we must understand *Carabus angulatus* Fab. (1781). I need not go any further than this with the various genera included in the group.

With this material to work on, together with some more modern genera, Chaudoir hit upon the following ingenious expedient. "Pour éviter de créer des noms nouveaux, j'ai approprié à chacune des divisions que j'ai introduites dans les grands *Panagaeus* à tarsi simples un de ceux qui ont déjà été proposés" (Mon. p. 90). Under this scheme of "appropriation" *Eudema* was attached to *angulatus* Fab. (1781) (under the guise of *bifasciatus*), *Craspedophorus* got the African species with a raised thoracic margin, while *Epicosmus* (the reference to which is misquoted by its author) got the Indian and African species with narrower thorax and without raised margin. These names do not seem to me to indicate more than divisions of one genus, which should bear Hope's name of *Craspedophorus*.

Coming now to the species, we find that Fabricius himself made an unfortunate blunder. *Carabus reflexus* was first described in Spec. Ins. i, 1781, 303, and the description is followed by the words "Coromandel, Mus. Dom. Banks." This is repeated in Mant. Ins. i, 1787, 197, and Ent. Syst. i, 1792, 147. In Syst. Eleuth. i, 1801, 166, the species is put under the genus *Cychrus*, and followed by two references: (1) *Carabus reflexus*, Ent. Syst. i, 1792, 147; (2) *Pimelia fasciata*, Ent. Syst. i, 1792, 104. We then read with surprise: "Habitat in Germania, Mus. Dom. Lund." Fabricius, as we learn from Hope (Col. Man. ii, 1838, 165), labelled another species *Carabus reflexus*; Hope proposed the name of *Panagaeus fabricii* for this, but did not describe it. The specimen (which belongs to Schaum's species *Craspedophorus (Isotarsus) mandarinus*, Ann. Soc. Ent. Fr. 1853, 436) is at Oxford, and Mr. Durrant identifies the Fabrician handwriting on the label. Fabricius had not therefore a very clear picture in his mind of his own species, and I think it almost certain that his memory was at fault again when he apparently identified a specimen in the Lund Collection as his own *C. reflexus*. Illiger (Mag. für Ins. i, 1802, 345) seems first to have drawn attention to the fact that "Germania" was an obvious mistake, and he tells us also that the specimen of *C. reflexus* in the Hellwig-Hoffmannsegg Collection came from Sierra Leone. The

fact appears to be that *Cychnus reflexus* (1801) = *Pimelia fasciata* (1792) = *Carabus angulatus* (1781). Both Hope (Col. Man. ii, 1838, 66 and 92) and Schaum (Stett. Ent. Zeit. 1847, 42) go into the matter, though they do not bring out all the facts. Hope (l.c. 66) proposed the genus *Campptoderus* for *C. reflexus* Fab., but did not describe it; by the time he got to p. 165 he seems to have forgotten about this, and without explanation proposed and briefly described the genus *Craspedophorus* for the same insect. Motchulsky (Et. Ent. 1855, 69) went quite astray, and Mr. Allnau, who has quite recently published descriptions of new African species of *Eudema* (Bull. Soc. Ent. Fr. 1915, 152), has unfortunately followed him rather than Hope and Schaum.

I give a description of the species, but the type is defective. Fortunately there is in the British Museum Collection another example labelled "W. Africa," and this has enabled me to add some details which would otherwise have been wanting.

***Craspedophorus reflexus* Fab.** Length 29 mill. Width 9 mill.

Elongate, prothorax roughly sculptured, with widely reflexed margins. Black, elytra with four transverse orange spots, the apical margin of the last joint of all the palpi yellow.

Head elongate, width 3.5 mill., labrum a little emarginate, clypeal suture invisible, middle of the head between the antennae raised, smooth, and polished, rugose and coarsely punctured in the frontal furrows and on the vertex. Mentum wide, with a short truncated tooth. Mandibles short and strong, hooked at the tip. Hope's figures for these parts (l.c. t. 3, f. 1a and 1b) are fairly good. Maxillae strongly curved at tip, elongate and very sharp. The type has lost all the palpi, but they are present in the second specimen and are very long. The ante-penultimate joint of the maxillaries is about as long as the first joint of the antennae, the penultimate joint of both pairs two-thirds of this length, and the apical joint three-quarters. The outer margin of the apical joint is three times as long as the inner one, and the apical margin is slightly hollowed out; this joint is almost identical in both maxillaries and labials. The type has lost all but the first joint of the antennae, but in the second specimen joint 3 = 1 + 2 = 4 + 5, but 1 is twice as long as 2, and 4 is very slightly shorter than 5.

The representation of the prothorax in Hope's figure is poor. Width 7 mill., length 5.5 mill.; front margin a little sinuate, hind

margin straight (except at sides), more rounded than is shown in the figure, more contracted in front than behind, sinuate before hind angles; front angles rounded and hardly prominent, hind ones also rounded with a minute indentation at the angles; sides broadly reflexed, especially towards base; median furrow rather faint; the whole surface covered with large confluent punctures, giving it a very rough appearance.

Elytra long, nearly parallel, shoulders not very much rounded; border narrow, a little sinuate before apex; punctate-striate, striae deep, intervals convex and closely punctured, third interval with three punctures, 1 just before middle, 2 and 3 close together at about two-thirds from base; front orange spot narrow, transverse, at one-fourth from base, covering intervals 4-8 (in the type a little colour shows on 3), the colour on 6 extending furthest towards apex, and on 8 towards base, though in each case only a little way; hind spot at three-fourths, resembling front one, but colour extending furthest towards base on 6 (in the type hardly any colour is visible on 3 or 8). Episterna and sides of sterna and ventral surface very coarsely punctate, metepisterna rather longer than wide, median line of body finely but sparsely punctate and a little transversely rugose, prosternal process indistinctly bordered, front margin of ventral segments apparently not crenulate, a few large punctures on each side of last one, a little removed from margin.

I have compared the type with a specimen of *C. regalis* Gory (Ann. Soc. Ent. Fr. 1833, 213), to which it seems nearly related. The insect is smaller, the prothorax has not the *Lebia*-like produced base of *C. regalis*, the puncturation of the elytra is closer and finer, the yellow bands are narrower, extending inwards to stria 3 only, instead of to 1 in front and 2 behind as in *regalis*.

OLIVIER.

There is in the Banks Collection the type of a Carabid described by Olivier under the name of *Carabus trimaculatus*. It bears no locality label, and Olivier did not know where it came from. It is probably due to this fact that the species has been overlooked, and no references to it have, as far as I know, appeared in entomological literature.

Macrochilus (*Carabus*) *trimaculatus* (Enc. Méth. Ins. ii, 1790, 347, t. 179, f. 11; Ent. iii, 1795, 35, 88, t. 7, f. 85). An examination of this insect showed at once that it was identical with Hope's *Macrochilus bensoni* (Col. Man. ii, TRANS. ENT. SOC. LOND. 1919.—PART I, II. (JULY) K

1838, 166, t. 1, f. 5). As I shall discuss this species under the heading HOPE, I will refer readers to my remarks there, and also to some remarks under FABRICIUS (*Pheropsophus tripustulatus*). Olivier's name being much older than Hope's must, of course, replace the latter.

Chaudoir has also described an Indian species under the name of *Macrochilus (Acanthogenius) trimaculatus* (Rev. et Mag. Zool. 1872, 171), and for this I propose the name of *M. chaudiiri*.

KIRBY.

There are three of Kirby's types in the British Museum, and the descriptions of all of them appeared in the transactions of the Linnaean Society.

1. *Calosoma chinense* (Trans. Linn. Soc. xii, 1818, 379). Redescribed by Dejean (Spec. Gen. v, 1831, 563), and referred to by various authors. The species is a well-known one and appears to be common in China. Bates records it from Japan (Trans. Ent. Soc. 1883, 232), and also informs us (Entom. xxiii, 1890, 212) that it occurs as far North as the River Amur. Motchulsky's *C. aeneum* (Bull. Mosc. 1859, iv, 489) from the Amur may be the same species.

2. *Catascopus hardwicki* (Trans. Linn. Soc. xiv, 1825, 98, t. 3, f. 1). The type of this species, which is also the genotype, came from "India," and the only other example I have seen, which bears no locality-label, is in the Hope Collection, at Oxford. The locality from which the type came is a little mysterious. Kirby says: "The individual specimen here described being transfixed by the same peculiar pin which Major-Gen. Hardwicke used for all the small insects that he collected in India (many of which he gave to the late Mr. Marsham, at whose sale I purchased it), I think I am warranted in my conjecture that this was one of them." We know that Hope described a number of Carabidae taken by Gen. Hardwicke in Nepal, and there is some probability, therefore, that Kirby's specimen came from the same locality.

It was assumed by Dejean (Spec. Gen. i, 1825, 329) and by Schmidt-Goebel (Faun. Col. Birm. 1846, 81) that Kirby's species was identical with Wiedemann's *C. (Carabus) facialis* (Zool. Mag. i, 3, 1819, 165), which is far from being the case. Chaudoir in his two discourses on *Catascopus* (Berl. Ent. Zeit. 1861, pp. 116-23, and Rev. et

Mag. Zool. 1872, pp. 244-50) did not think it worth while to refer to the type of the genus. I give a detailed description, as Kirby's brief diagnosis appears to be the only one extant.

Catascopus hardwicki. Length 9 mill. Width: head 2.0, prothorax 1.75, elytra 3.25 mill.

Piceous, upper surface of head and prothorax dark blue, sides of elytra dark aeneous green, mouth-parts (except mandibles), femora, and trochanters brownish. Surface finely shagreened.

Head wide, shiny, finely rugose with faint puncturation, smooth on neck, bicarinate on each side, inner ridge running forward to end of clypeal suture, frontal margin almost straight in middle, with a fine short longitudinal incised line running backwards from its centre, its sides forming angular projections; clypeus smooth, emarginate, with a seta on each side, labrum porrect, rounded in front, with a small excision, eyes very prominent, mandibles strong, hooked at tip.

Prothorax a little wider than long, widest at a fourth from apex, slightly emarginate in front and bisinuate at base, sides bordered and reflexed, with pores at a third from apex and on hind angle (setae abraded), gently rounded in front, strongly and widely sinuate behind, front angles very little rounded, but not projecting, hind angles acute, projecting laterally, and a little reflexed, base bordered (except in middle); front transverse impression shallow, basal one deep, median line deep, forming elongate foveae at extremities, reaching base but not apex, basal foveae deep, rounded, close to hind angles; surface shiny with fine cross wrinkles and extremely fine scattered puncturation, the course of the front transverse impression finely rugose.

Elytra short, square, parallel, about three times as long as thorax, shoulders well marked, margin finely bordered, sinuate at a third from base, obliquely truncate at apex, truncature slightly emarginate, outer angle quite rounded, inner angle narrowly truncate, extreme apex fairly sharp; striae almost impunctate on disk, strongly punctured at sides, 3 with three punctures at a fifth, a half, and four-fifths from base respectively, a short striae between 1 and suture, intervals smooth, the three inner ones fairly flat, 4 raised at base and again in middle, leaving a depressed area at about a third from base, which extends on to the adjoining intervals, 5 and 6 narrower, the former carinate on its middle third, 7 very narrow, carinate throughout, a marginal series of large umbilicate punctures, interrupted in middle, one or two very long setae issuing from them (others probably abraded).

Underside (as far as it can be seen) smooth, prosternal process very finely bordered at apex, metepisterna elongate.

The elytra differ in colour from those of *C. facialis* Wied., and the size is much smaller, head with two carinae on each side (instead of one), front angles of prothorax less projecting, hind angles acute and projecting (instead of right), elytra shorter, fourth interval depressed near base, outer angles of apical truncature rounded instead of toothed.

3. *Hexagonia terminata* (Trans. Linn. Soc. xiv, 1825, 564). Kirby's genus was subsequently described by Dejean (Spec. Gen. v, 1831, 288) under the name of *Trigonodactyla*. It has been dealt with by numerous authors, the latest of whom, Commandant Dupuis, gives details of the genus and a list of the species and their synonymy (Gen. Ins. Hexagoniinae 1913, 2). In this list we read, "19? (Description insuffisante) *H. terminata* Kirby, etc.," from which the casual inquirer is left in some doubt whether the genotype belongs to the genus at all. Kirby's description is certainly a very poor one, as was pointed out by Schmidt-Goebel (Faun. Col. Birm. 1846, 50), who discusses both genus and species at some length. Lacordaire (Gen. Col. i, 1854, Atl. t. 3, f. 1) gives a figure alleged to be *Trigonodactyla terminata* Kirby; in the "Explication des planches," however, it appears correctly as *T. terminata* Dej. (= *terminalis* Mun. Cat.), an African species.

This type, like the last, was bought by Kirby at Marsham's sale, and, as it was pinned in the same way, he assumed—probably rightly—that it came from India. I have seen another example from Munshiganj (Bengal) in the Pusa Collection, and Mr. Vitalis de Salvaza has taken a third specimen at Vientiane in Laos.

I give below a fresh description of the species.

Hexagonia terminata, ♀. Length 9 mill. Width: head and prothorax 1.75, elytra 3.0 mill.

Piceous, basal two-thirds of elytra, epipleurae of elytra, first two joints of antennae, femora, trochanters, and apex of last ventral segment testaceous, margins of prothorax (narrowly), mandibles, middle of metasternum, abdomen, tibiae, and tarsi reddish-brown, joints 3-11 of antennae fuscous.

Head flat, wide, smooth, shiny, hexagonal, gradually contracted behind eyes for a distance about equal to their diameter, then sharply constricted into a narrow neck, which forms a peduncle; frontal

impressions extending from mid-eye level to the front margin of clypeus, gradually contracted in front, and bounded outwardly by a ridge, area between them slightly depressed, clypeal suture well marked, front margin of clypeus faintly emarginate, a seta on each side, labrum truncate, 6-setose; a narrow furrow running along inner margin of eye, widening behind eye and turning obliquely inwards for a short distance, just beyond its termination a large shallow pore. (These pores are no doubt setiferous, as in other species, but the setae, as in the case of the front supra-orbital pores, have vanished). Mandibles small, sharp, eyes moderately prominent, front margin close to buccal fissure; antennae reaching base of thorax, setose from first third of joint 4, 2 very short, rest about equal, but 3 a little shorter and 4 a little longer than the rest.

Prothorax more or less hexagonal, flat, widest at two-fifths from apex, truncate in front and behind, front angles adjoining neck and quite inconspicuous, margin finely bordered, forming an obtuse angle a little before middle, strongly arcuate in front of this, straight behind, but sinuate near hind angle, which is right, a (presumably setiferous) pore at side angle, none visible at basal angle; transverse impressions obsolete, median line deep and wide, almost reaching extremities, basal foveae elongate, a ridge running inside border from near basal angle to near apex, leaving a more or less explanate area between it and margin (coloured red), widest opposite side angle; surface shiny, a little transverse striation at sides, some coarse confluent punctures on base and basal foveae.

Elytra parallel, rather flat, shiny, base bordered, border forming an angle over interval 5, shoulders evident but rounded, margin sinuate before apex, striae punctate-striate, a scutellary striole between 1 and suture, intervals flat, 3 with three punctures, one near base adjoining stria 3, second rather behind middle, and third not far from apex, both adjoining stria 2, 5 with a single puncture at a third from apex, marginal series interrupted in middle.

Underside smooth, prosternum and pro-episterna coarsely punctate except in middle, metasternum lightly punctate at sides, metepisterna very long and narrow, smooth, two pores at each side of last ventral segment a little removed from margin.

Compared with *H. bowringi* Schaum (Berl. Ent. Zeit. 1863, 73 and 433, t. 3, f. 3) from Penang, this species—in addition to its quite different coloration (*H. bowringi* being uniformly piceous)—has a narrower head, narrower frontal impressions, bounded by more obvious ridges, prothorax much narrower and less contracted behind, sides angular instead of rounded, surface less convex and

less smooth; elytra rather flatter, but the pores on intervals 3 and 5 are identical.

VIGORS.

One type only, viz. :—

Craspedophorus (**Panagaeus**) **tomentosus** (Zool. Journ. i, 1824, 537, t. 20, f. 1) = **C. (Carabus) angulatus** Fab. (1781).

This species has already been referred to among the Fabrician types.

W. S. MACLEAY.

Macleay's "Annulosa Javanica" and the first volume of Dejean's "Species Général des Coléoptères" both appeared in the year 1825, the former during the summer (though I have not been able to ascertain the month of publication) and the latter in September. Any doubts, however, regarding priority are set at rest by the mention of Macleay and the "Annulosa Javanica" in the "Table Alphabétique des Auteurs, etc.," at the commencement of Dejean's book. Macleay's work does not compare in magnitude with Dejean's; he goes into considerable detail, however, in describing his new genera, and, although the descriptions of species are often very short and imperfect, we have to thank him for making known many insects from Java, the entomological fauna of which must at that time have been almost unknown. It is unfortunate that the types of Carabidae which he described have been so little studied; I hope by my remarks to make them rather better known.

The collection of Coleoptera and other insects made by Dr. Horsfield in Java during the years 1812–1817, and described in part by Macleay, was deposited and remained for many years in the Museum of the East India Company. It was during this period that it was examined by Hope, who in his Coleopterist's Manual (Part II, 1838) gives a few references to Macleay's genera and species, and on plate 2 figures six of the latter with anatomical details. In 1860 it was removed to the British Museum, where it was certainly seen by Schaum and possibly by Chaudoir. References to the collection in entomological literature are few and generally take the form of guess-work. Even Bates was not exempt from this, though the collection was known to and occasionally examined by him.

I propose to go through Macleay's genera and species,

offering such observations and additional descriptions as I think may be of use.

1. *Craspedophorus* (*Panagaeus*) *cereus*. The type is unique. No mention of the species seems to have been made until Chaudoir (Rev. et. Mag. Zool. 1869, 116) believed that he recognised it in a Javan specimen he had lately purchased. Nine years later, when he published his "Essai monographique sur les Panagéides" (Ann. Soc. Ent. Belg. xxi, 1878) all doubt had been resolved, and we find it figuring (l.c. 150) without query as "*Dischissus cereus* Macl." The fourth tarsal joint of Macleay's insect, however, is entire, and the genus to which it belongs is *Craspedophorus*. To prevent further confusion I suggest for Chaudoir's species the name of *D. chaudoiri*.

Craspedophorus cereus. Length 12 mill. Width 5 mill.

Black, each elytron with two yellow spots, extreme apex of palpi yellowish. Head square, coarsely punctured, middle of front and neck smooth, frontal foveae fairly deep; antennae long and slender, joint 1 = 3, 2 = about two-fifths of 1, the remainder about two-thirds of 1; maxillary palpi long and slender, labials shorter, terminal joint (for the genus) not much dilated.

Prothorax half as wide again as head, truncate at extremities, sides sharply rounded a little behind middle, where it is widest, with an extremely narrow margin—not reflexed; front angles contiguous to neck, hind angles obtuse but not rounded, with a minute indentation in the sides, just in front of them, forming a small right-angled tooth; surface a little convex in the middle, flat at sides, even more coarsely punctured than the head, transverse impressions obsolete, median line reaching margins, a fairly deep fovea on each side of the base, within which is a furrow reaching nearly to the middle of the prothorax.

Elytra half as wide again as prothorax, not very convex, a little dilated behind middle, margin sinuate near apex; striae well marked, finely punctured, intervals finely and moderately closely punctured, though leaving the surface rather shiny; front spot extending from stria 4 to margin and beyond it on to the epipleura, running a little obliquely towards the shoulder on intervals 8 and 9, extending furthest towards apex on 6 and 8, hind spot covering intervals 5-8, projecting a little towards base on 5 and 6, and towards apex on 7 and 8. Sterna and sides of first two ventral segments coarsely punctured, ventral surface generally finely punctured; metepisterna much longer than wide; front margin of ventral segments crenulate; fourth tarsal joint simple.

Allied to *C. bifasciatus* Cast.; head wider, antennae longer, prothorax flatter, less coarsely punctured, sides less sharply rounded, hind angles more evident, elytral spots extending inwards to stria 4 only.

2. **Chlaenius** (*Lissauchenius*) *ruffemoratus*. The species is figured on the plate (t. 1, f. 1). Put forward originally by Macleay as a subgenus of *Panagaeus*, *Lissauchenius* has now been merged in the genus *Chlaenius*. In his "Monographie des Chléniens" (Ann. Mus. Civ. Gen. 1876, 34) Chaudoir retains the name for a small group comprising Macleay's species and his own *C. medioguttatus* from India, characterised principally by the slender labial palpi with a widely dilated apical joint and an ovate prothorax. Macleay considered his insect very near *Chlaenius* (*Carabus*) *posticus* Fab. (Suppl. Ent. Syst. 1798, 57), a species hitherto not satisfactorily identified, though Chaudoir (Mon. 55) has some remarks on it. Wiedemann's *Panagaeus chalconcephalus* (Zool. Mag. ii, 1, 1823, 57), which Macleay also mentions, belongs almost certainly to Bates' genus *Pristomachaerus* (Trans. Ent. Soc. 1873, 323).

The type is unique. Chaudoir describes in his Monograph (p. 35) a specimen from Siam, which he regarded as belonging to Macleay's species. As I am not convinced of this, I think it best to give a detailed description.

Chlaenius ruffemoratus, ♂. Length 11 mill. Width 3.5 mill.

Black, head and thorax dark metallic green; elytra very dark blue with a moderately large yellow spot on each, the centre of which is at about three-fifths from base; femora (except apex) and hind trochanters red, apex of mandibles, first joint of antennae, labial palpi and apex of maxillary palpi more or less tinged with red.

Head shiny, long, contracted at neck, flat and smooth in front, with shallow foveae, some longitudinal wrinkles near eyes, and a narrow furrow along margins to behind eyes, vertex and sides of front finely and sparsely punctured; eyes rather prominent; labrum a little emarginate; antennae with joint 1 = 3, 4 a shade longer (remainder wanting); last joint of maxillary palpi slightly dilated to middle, then cylindrical to apex, which is obliquely truncate; penultimate joint of labial palpi compressed and slightly curved, apical joint nearly as long as penultimate, at base strongly but then gradually dilated, flattened, subtruncate, and rather hollowed out at apex.

Prothorax narrow, not much wider than head, elliptical with truncated ends, very little broader behind than in front, no sinuation

before hind angle, side margins narrowly bordered, flattened out a little behind; all the angles obtuse but not rounded; surface shiny, fairly strongly but not closely punctate, more sparsely on disk, though more closely along median line, the last named fine and bounded by the transverse impressions, which are faint, basal foveae small but fairly deep, near hind angles.

Elytra rather more than half as wide again as prothorax, ovate, widest a little behind middle, shoulders strongly rounded, as also is the junction of the basal and side margins, the latter sinuate towards apex; striae deep, finely and closely punctured, intervals convex, shiny, rather finely but not closely punctate, pubescence abraded except at sides; the spot covers intervals 4-8, transverse, a little oblique (outwards and backwards), the colour on interval 6 projecting a little towards apex.

Underside shiny, prosternal process bordered, the whole of the sterna and episterna (except outer part of pro-episterna, and lower half of meso-episterna) rather coarsely but not closely punctate, first two or three ventral segments coarsely punctate at sides, the rest of the ventral surface finely and remotely punctate; metepisterna much longer than wide, sulcate along outer margin; margin of last ventral segment emarginate on each side, a deep setiferous puncture opposite the emargination, but some distance from the margin. Front femora (♂) toothed at base.

No doubt *C. rufifemoratus* is closely allied to *C. medioguttatus* Chaud., and *C. orbicollis* Chaud., but until the types of these two species are available I cannot attempt any comparison.

3. *Chlaenius cinctus*. Macleay identifies his species with *C. cinctus* Fab. (see above) and *C. xanthacrus* Wied. (Zool. Mag. ii, 1, 1823, 51), but it has little relationship with either—indeed Wiedemann's species, which was redescribed by Redtenbacher (Reis. Novar. ii, Col. 1867, 9) under the name of *Chlaenius hügelii*, is not a *Chlaenius* at all. Macleay's *C. cinctus* = *C. javanus* Chaud. (Bull. Mosc. 1856, iii, 229; Mon. 115), and I strongly suspect that this will prove to be identical with *C. circumdatus* Brullé (Silb. Rev. Ent. iii, 1835, 283). If so, the species has a wide range, extending from India and Ceylon to Indo-China, and southwards to the large Malay islands. I have no records, however, from China or Japan.

4. *Chlaenius apicalis*. In view of Wiedemann's *C. apicalis* (Zool. Mag. i, 3, 1819, 166) the name of Macleay's

species was changed by Gemminger and Harold to *C. mutatus* (Mun. Cat. 1868, 222). The description is so short that I give a fresh one.

Chlaenius mutatus Gemm. and Har. = ***apicalis*** Macl.,
♂ ♀ (2 ex.). Length 15 mill. Width 5.5 mill.

Black, head green, thorax dull coppery-greenish at sides, apex of elytra, first joint of antennae, labrum, base of palpi, femora, tibiae, and hind trochanters yellowish, remaining joints of antennae, coxae, and tarsi brown.

Head longitudinally rugose at sides, smoother on vertex, neck coarsely punctured and a little constricted; labrum slightly emarginate; antennae with joint 1 short and tumid, half as long again as 2, 3 a little longer than 1 + 2, and about half as long again as the succeeding joints; palpi slender, last joint truncate.

Prothorax one-third as wide again as head, very little wider than long (wider in ♂ than ♀), widest at middle, equally contracted and truncate at extremities, uniformly rounded at sides without trace of sinuation before hind angle, all the angles moderately rounded, reflexed side border very narrow, a setiferous puncture at one-fourth from base; surface moderately convex, declivous towards front angles, finely and sparsely punctured, more strongly and closely towards base, which is longitudinally strigose in the middle, a short slight pubescence at sides; median line fine, not reaching margins, transverse impressions nearly obsolete, basal foveae rather shallow, rugosely punctured.

Elytra not very convex, nearly half as wide again as prothorax, widest a little behind middle, margin without angle at shoulder, slightly sinuate before apex, which is narrowly yellow, the colour extending forwards to a little beyond the sinuation; striae deep, minutely punctured, intervals moderately convex, finely shagreened, smooth but with a row of punctures with short setae on each side of the striae, the two outside intervals and the apical area more finely punctured and with a more evident pubescence.

Underside smooth, ventral surface minutely rugose at sides; prosternal process bordered; metepisterna and sides of metasternum with coarse shallow punctures, the former half as long again as wide and without external furrow. Front femora (♂) without tooth.

Closely allied to *C. cambodiensis* Bates. Head narrower, more coarsely sculptured, neck a little more constricted; thorax equally contracted at extremities, and more coarsely sculptured at base; elytral intervals more convex, apical yellow spot a little narrower, colour otherwise uniformly black.

5. *Chlaenius quadricolor*. This—one of the best-known species of Eastern *Chlaenius*—was originally described by Olivier (Enc. Méth. v, 1790, 344). Later on Dejean (Spec. Gen. ii, 1826, 339) described it under the name of *Chlaenius orientalis*, and Laferté (Ann. Soc. Ent. Fr. 1851, 263) as *Amblygenius chlaenioides*. Motchulsky's *Poeciloistus laevicollis* (Bull. Mosc. 1864, iv, 348) is probably the same thing. It is a common species in India and Ceylon, Bates records it from Bhamo, and Mr. Vitalis de Salvaza has taken it in Indo-China. I have seen no examples from the Malay region, except Java.

The *Chlaenius (Carabus) tenuicollis* Fab. (Syst. Eleuth. 1, 1801, 185) mentioned by Macleay is an African species.

6. *Chlaenius micans*. Macleay considered his specimen identical with *Carabus micans* Fab. (Ent. Syst. i, 1792, 151) and probably also with *Carabus analis* Oliv. Neither of these species has been satisfactorily identified, and I do not know at present where the types are, or even if they are in existence. In any case I think *C. analis*, which came from Senegal, may be excluded. Chaudoir (Mon. 62) thought *C. micans* Fab. might be the same thing as his *C. hamifer* (Bull. Mosc. 1856, iii, 209), but that *C. micans* Macl. (Mon. 52) was a different species; in this latter view I concur, though the evidence furnished by Fabricius' very brief description is inconclusive. With his original description no locality is given, but later on (Syst. Eleuth. i, 1801, 191) he mentions Bengal. As all the examples of Macleay's species which I have seen come from the Malay region, I redescribe it under the name of *C. macleayi*.

Chlaenius macleayi = *C. micans* Macl., ♂. Length 11 mill. Width 4 mill.

Black, head and thorax dark green, elytra black with greenish reflection, a comma-shaped spot at apex of elytra, two first joints of antennae, basal joint and apex of palpi, front margin of labrum, apex of ventral surface, legs (except coxae) reddish yellow; margin of thorax, coxae, and remaining joints of antennae and palpi brown.

Head finely punctured, nearly smooth in front with faint longitudinal striation near eyes, frontal foveae moderately deep, labrum truncate in front, eyes prominent; antennae reaching a little beyond base of thorax, joint 1 = 4, a little longer than 3, twice as long as 2; last joint of palpi not dilated.

Prothorax quadrate, one-third as wide again as head, a little more contracted in front than behind, truncate at extremities, rounded at

sides, without trace of sinuation before hind angles, which, like the front angles, are rounded; sides finely bordered, with a seta near base; surface moderately convex, declivous towards front angles, fairly strongly but not closely punctate on disk, more closely at sides of base, an irregular row of punctures on each side of median line, which is very fine and does not reach the margins, faintly pubescent near hind angles; transverse impressions very slight, a short longitudinal furrow on each side of base, and rather distant from basal margin.

Elytra not very convex, width compared with prothorax as 5 to 3, margin rounded at shoulder, slightly sinuate before apex, striae fairly deep, punctured, intervals rather flat, very closely and finely punctate, the whole surface covered with a dense short greyish pubescence; apical spot covering apex and running back narrowly to the marginal sinuation, whence (leaving the margin) it extends backwards on intervals 6, 7, and 8, and in front sends an arm inwards to stria 3.

Underside smooth, shining, prosternal process faintly bordered at apex, a few punctures on middle of prosternum, metasternum with a few coarse punctures at sides, metepisterna nearly smooth, half as long again as wide, with a furrow along outer margin. Front femora (♂) without tooth.

The species is evidently extremely close to *C. bihamatus* Chaud., but is a little smaller than specimens in my collection which I identify with Chaudoir's species; the hind angles of prothorax more evident, surface rather more closely punctured, elytra darker, apical spot smaller.

In addition to the type there are specimens in the British Museum Collection from Borneo, labelled "Sarawak," "Sanga-Sanga," and "Kuching." In these, the prothorax is more contracted behind than in the type, and the elytral spot is rather smaller—indeed, in one example it is reduced to only half the normal length, and does not nearly reach the apex. As the species is apparently a variable one, it may prove that it is really identical with *C. bihamatus*, but this can only be settled when the type of the latter is available for comparison. As Chaudoir's description is a short one, I shall in any case have done no harm in giving a fuller one.

It may be worth while pointing out here that when *C. bihamatus* was described (Bull. Mosc. 1856, iii, 210) Chaudoir said he had received two examples taken by Capt. Boys in N. India, and another from Tranquebar; *C. hamifer*

(l.c. 209) was said to come from Java. In the Monograph (Ann. Mus. Civ. Gen. 1876, 62) he tells us that he has two examples of *C. bihamatus* from Java and one from Hong-Kong, while *C. hamifer* now inhabits "toute la presqu'île Cisgangaétique." It is evident to me that in 1856 he transposed the localities, but no word of this appears in the Monograph, where the necessary rectification is made.

7. *Chlaenius flaviguttatus* = *C. binotatus* Dej. (Spec. Gen. ii, 1826, 302). The species has hitherto been known under the latter name, for which Macleay's must be substituted. Chaudoir (Bull. Mosc. 1856, iii, 200) redescribed the species as *C. punctatus*, a name which Gemminger and Harold changed to *puncticeps* (Mun. Cat. 1868, 224). Castelnau (Notes on Australian Coleoptera, 1867, 62) again described it as *C. maculifer*. A form from the Philippine Islands, in which the spots at the apex of the elytra are much reduced, broken up into several small ones, or wanting altogether was described by Eschscholtz (Zool. Atl. v, 1833, 26, t. 25, f. 8) as *C. guttatus*.

The species is recorded from Java, Sumatra, and the Eastern Coast of Australia; the form *guttatus* from the Philippine Is., New Caledonia, and New Guinea.

8. *Catascopus elegans* = *C. facialis* Wied. (Zool. Mag. i, 3, 1819, 165). Macleay supposed his species to be the same as *Catascopus (Carabus) elegans* Fab. (Syst. Eleuth, i, 1801, 184) = *Catascopus (Elaphrus) elegans* Weber (Obs. Ent. 1801, 45), but he was mistaken. Wiedemann's *C. facialis* came from Bengal, and Dejean (Spec. Gen. i, 1825, 329) redescribed it, also from a Bengal specimen (*teste* Chaudoir, Bull. Mosc. 1850, ii, 352) sent to him by Westermann; later on (l.c. v, 1831, 452) he referred a Javanese specimen to the same species. After examining a large number of specimens from all parts of the East, I have come to the conclusion that *C. facialis* Wied., *C. elegans* Macl., *C. angulatus* Chaud. (Berl. Ent. Zeit. 1861, 117), and *C. oxygonus* Chaud. (l.c. 117) are all the same species. The colour is variable, blue predominating in India and a brassy tint in the Malay region; as a rule the prothorax has sharper hind angles, projecting a little laterally, in examples with a brassy colour, but there is no question of a local race, as there is little constancy in either of these characters. The species is very common throughout S.E. Asia and the Malay Archipelago.

9. *Pericallus (Catascopus) quadrimaculatus*. Macleay recognised that this species differed in several respects from

his *Catascopus elegans*, but it did not strike him that it belonged more properly to his own next succeeding genus. Castelnau redescribed it as *Catascopus quadrisignatus* (Ann. Soc. Ent. Fr. 1832, 392). Chaudoir proposed a new genus, *Coeloprosopus*, for the species (Bull. Mosc. 1842, iv, 840), but subsequently withdrew it (Berl. Ent. Zeit. 1861, 123). The descriptions of Macleay and Castelnau are both so short that I give a rather more detailed one.

Pericallus quadrimaculatus, ♂. Length 6.25 mill. Width 3 mill.

Head and prothorax metallic green, the former bluish on middle of front, elytra dull purple with greenish reflections, each with two yellow spots; femora (except apex), hind trochanters, and labrum red; first joint of antennae, base and apex of palpi and mouth parts generally, apex of femora, tibiae, and tarsi more or less reddish.

Head wide, finely and intricately wrinkled, longitudinally striated near eyes; eyes large and very prominent; antennae long and slender, joint 1 thick = 3, 4 a little shorter, 2 shortest of all, 5-11 equal in length and a little longer than 1.

Prothorax small, much narrower than head (with eyes), more or less quadrate, slightly transverse, a little emarginate in front, base truncate; sides rounded in front, then strongly sinuate, with a seta at one-third from apex and another at hind angle; hind angles acute and projecting laterally, median line fine, forming a fovea at junction with front transverse impression, which is faintly marked, and then just visible to front margin, more strongly marked towards base, hind transverse impression very deep, ending on each side in a deep fovea near basal angles; surface finely and transversely wrinkled, very finely punctate along front margin, basal area (between the transverse impression and the margin) relatively smooth.

Elytra rather more than twice as wide as prothorax, 4 mill. in length, shoulders very square, a little wider behind middle, apex widely and obliquely truncate, truncature a little emarginate with a small spine at both ends; striae deep, rather faintly punctured, intervals convex, smooth, and finely shagreened, third with 3 pores, 1 at a sixth from base, 2 at two-fifths, 3 at three-quarters, ninth with some large punctures bearing long setae, very noticeable at each end of the truncature; the front spot is small on intervals 4-6 and tapers outwards (in some examples the colour spreads on to 3 and 7), hind spot larger on 3-7 (sometimes 8), forming on 3-6 a more or less oval spot, the colour on 7 beginning and ending

further towards apex, but overlapping that on 6. (If a series of specimens is examined the form of both spots is seen to be very variable.)

Underside more or less smooth, head finely rugose at sides, ventral surface finely but not closely punctate, the last segment with two setae on each side, emarginate in ♂; prosternal process bordered; metepisterna long and narrow. Front tarsi ♂ with first three joints a little dilated, biserially squamose beneath.

A little smaller than *P. tetrastigma* Chaud. Apart from the quite different colour, *P. quadrimaculatus* has the head more strongly striated, prothorax shorter, elytra shorter, squarer at base, more widened out behind, with deeper striae, and hind spot generally much larger.

Most of the examples I have seen come, like the type, from Java, but I identify with the species examples in the British Museum taken by Doherty in Perak and Siam (Renong).

10. *Pericallus cicindeloides*. Figured on the plate (t. 1, f. 2). Brullé refers to it in Audouin and Brullé's *Histoire Naturelle* (Ins. iv, 1834, 230), and Commandant Dupuis (Ann. Soc. Ent. Belg. 1913, 82) gives a table including this species and its allies. Macleay thought his new genus was allied to *Sphodrus* Clairv., but this is not the case. There is a second specimen (♂) in the British Museum, also from Java. As there seems to be no detailed description extant, I give one as follows:—

Pericallus cicindeloides, ♀. Length 10 mill. Width 4 mill.

Very dark brown; head and prothorax (above and below) dark blue, shiny (neck a little brassy in the type); elytra (including epipleurae) violet-blue, opaque; clypeus black, labrum with red margin.

Head broad, smooth on neck, vertex, and middle of front, strongly longitudinally striated at sides, and more faintly on clypeus; eyes very prominent; joint 2 of antennae short, the rest nearly equal in length, 4 a little shorter.

Prothorax a little narrower than head, very nearly as long as wide, strongly emarginate in front, truncate behind; sides rounded in front, sinuate at some distance from hind angles, then straight to base, widely but not strongly reflexed, a (probably setiferous) puncture at one-third from apex and another at basal angle (but all the setae—if ever present—have disappeared on both specimens);

front angles porrect, only a little rounded, hind angles right, strongly reflexed; surface finely transversely wrinkled, front transverse impression obsolete in middle, forming a shallow furrow on each side, hind transverse impression deep, median line deep not reaching margins, an irregular furrow running forward on each side from the ends of the basal transverse impression and ending in a shallow fovea situated midway between the median line and the side margin, and at about one-third from apical margin.

Elytra twice as wide as thorax, and rather more than twice as long, short, widened behind, margin narrow but widened out in middle, truncate and emarginate at apex, with a tooth (not a spine) at each end of the truncature; surface finely shagreened, striae deep, finely crenulate, intervals raised, third with 3 pores, 1 near base, 2 just behind one-third from base, 3 at four-fifths, ninth with a few large (presumably setiferous) punctures, but the only seta, visible (and that one on the second specimen) is close to the external angle of the truncature.

Underside smooth, shiny, head finely rugose at sides, prosternum and ventral surface finely and remotely punctate, prosternal process not bordered, metepisterna long and narrow, last ventral segment with two setae on each side, the outer one on margin, the inner one at some distance from margin. (Front tarsi in ♂ with three first joints slightly dilated, and biserially squamose beneath.)

Closely allied to *P. longicollis* Chaud., but without spots on the elytra. Head wider, less constricted behind; prothorax wider, front angles more, hind angles less prominent, surface flatter with deeper impressions; elytra similar in shape, but the apical portion less pointed.

11. *Diplochila* (*Rhembus*) *polita*. Herbst's *Carabus indicus* (Fuessly's Archiv. V, ii, 1784, 138, t. 29, f. 11) seems to be the same species as Fabricius' *Carabus politus* (Ent. Syst. i, 1792, 146), and was so considered both by Macleay and Chaudoir (Bull. Mosc. 1852, i, 67). Herbst's name, however, has never come into general use, perhaps from some doubt about the identification, which I cannot at present resolve. Numerous references to the species will be found in entomological literature.

The genus *Rhembus*, under its French name, was first mentioned by Latreille (Hist. Nat. et Icon. Col. Eur. 1822, i, 85), but it was first described under its Latin name by Dejean (Spec. Gen. ii, 1826, 380). Meanwhile Germar had in 1824 applied the same name to a genus of Curculionidae, and Brullé's name of *Diplochila* (Audouin and Brullé's Hist.

Nat. Ins. iv, 1834, 407) now replaces it. (See Bedel, Cat. rais. des Col. du Nord de l'Afrique, 1897, 102 note (1).) Nietner's *Symphysus unicolor* (Ann. and Mag. of Nat. Hist. 3, ii, 1858, 180) from Ceylon is probably the same species, but I have not yet traced the type.

The species ranges from India to Indo-China, and southwards into Java.

12. *Dirotus subiridescens*. The genus is fully described by Macleay, who thought it not far from *Dolichus*, but it seems more closely allied to Bates' genus *Onycholabis* (Trans. Ent. Soc. 1873, 329). The description of the species is so short that I am giving a fresh one. In addition to the type (♂), there are two examples (♂♀) also from Java in the British Museum Collection, the ♀ taken by Dr. Horsfield, the ♂ ex coll. Bowring. I have seen no other specimens.

Dirotus subiridescens, ♂. Length (incl. mandibles) 9·5 mill. Width 4 mill.

Figured by Hope (Col. Man. ii, 1838, t. 2, f. 1): I shall refer to the figure in the course of the description.

Black, iridescent; maxillae, palpi, antennae (exc. joint 3), trochanters, tarsi, and apex of femora and tibiae red-brown (the palpi rather lighter than the other parts); mandibles, labrum, and joint 3 of antennae dark brown.

Head smooth, not so wide nor so deeply sunk in the prothorax as shown in the fig., with shallow foveae between the antennae, clypeus truncate, suture well marked, a setiferous pore near front angles, labrum slightly emarginate, with 6 setae, the outer ones longest; eyes rather flatter than shown in the fig., two supra-orbital pores, the hind one distant from eye and rather behind the hind margin of the eye; antennal joints approximately equal, except 2, which is half as long as the others, pubescent from middle of 4; mandibles and palpi very long, penultimate joint of labials distinctly longer than in fig., maxillae long (but shorter than mandibles) and hooked at tip, with a serrate inner margin (not shown in fig.), the teeth not very close together, buccal fissure very close to eye.

Prothorax a little wider than head, much more contracted at the extremities than in fig., truncate at base, a trifle emarginate at apex, front angles projecting a little, rather sharp, sides sinuate before base, hind angles right, side border very fine (apparently without setae); surface smooth, rather convex, declivous towards front angles, which are near to though they do not touch the neck, median line much finer than in fig., not quite reaching margins;

transverse impressions obsolete, slight longitudinal furrows near hind angles, basal area faintly punctate.

Elytra rather more than twice as wide as prothorax, rather square at shoulders, though widely rounded, parallel to three-fifths from base, then rounded to apex without sinuation; striae deep, smooth, a well-developed scutellary striole between 1 and suture, intervals convex, flatter on disk, third with 3 pores, 1 near base (adjoining stria 3), 2 and 3 not far from apex (adjoining stria 2), ninth with some large umbilicate pores, from which issue long setae (though these are largely abraded).

Underside smooth, shiny, prosternal process not bordered, metasterna narrow, bordered along inner margin, a shallow furrow running along outer margin, ventral surface finely and remotely punctate, last segment with two setae on each side in ♂, a row of setiferous pores along hind margin in ♀. Tarsal joints smooth on upper surface; in the hind tarsi joint 1 = 5, 2 = two-thirds of 1 = 3 + 4. Front tarsi of ♂ with three feebly dilated joints, clothed beneath with scanty white filamentous scales. Fourth joint in all feet of both sexes with a thin curved membranous appendage on each side beneath, extending underneath from apex to rather more than half the length of joint 5. Claws simple.

As this is the only known species of the genus, I cannot compare it with any other, but I may say that superficially there is a strong likeness between it and Bates' *Pirantillus feae* (Ann. Mus. Civ. Gen. 1889, 109).

13. *Colpodes brunneus*. Figured in the plate (t. 1, f. 3). Macleay's specimen, the type of a vast genus, is the only example of the species I have seen. Macleay was quite right in associating his new genus with *Sphodrus* and *Anchomenus*. In his Monograph of the genus *Colpodes* (Ann. Soc. Ent. Fr. 1859, 359) Chaudoir just mentions the genotype, but in his subsequent and much more extended "Révision" (Ann. Soc. Ent. Fr. 1878) he ignores it altogether. Mr. Alluaud (Ann. Soc. Ent. Fr. 1916, 78) has recently drawn attention to Chaudoir's Observations on the genus (Mon. 292), which I think worth quoting, as an amusing instance of his methods: "On remarquera que j'assigne à mes *Colpodes* une dent un peu variable mais toujours bien distincte au fond de l'échancrure du menton tandis que Mac Leay dit du sien: *mentum sinu simplice*; mais comme les insectes recueillis par Horsfield ne paraissent pas avoir été dans le meilleur état, il est fort possible que cet organe a été mal observé; si je me suis trompé, on

en sera quitte pour ne pas laisser le nom de *Colpodes* à l'espèce de Mac Leay." Fortunately the mentum has in reality a well-developed tooth, and Macleay may therefore rest at peace in his grave. Nothing further having been published regarding the species, I give a fresh description of it.

Colpodes brunneus, ♀. Length 12·5 mill. Width 4·5 mill.

Dark brown, palpi, antennae from joint 4, and tarsi a little lighter.

Head smooth, wide, rather tumid, with deep frontal foveae, which are longitudinally striate, some faint irregular surface markings on vertex, neck quite smooth, clypeus with a seta on each side, labrum a little emarginate; eyes very small and very prominent, antennae more than half as long as body, joint 3 a little longer than 4, slightly curved, a narrow ridge separating eye from buccal fissure; mandibles long, hooked at apex, mentum with a strong tooth in the emargination.

Prothorax one-third as wide again as head, contracted rather more in front than behind, front margin strongly, hind margin slightly emarginate; sides rather widely but not strongly reflexed, without visible setae, faintly sinuate before hind angles, which are obtuse but not much rounded, front angles porrect, only a little rounded; surface rather flat, with very faint transverse striation, transverse impressions moderately strong, bounding median line, which is not very deep and is interrupted in the middle (perhaps an individual peculiarity), hind transverse impression ending on each side in a shallow rounded fovea, from which a very shallow furrow runs parallel with the side up to the front margin.

Elytra long, parallel, half as wide again as thorax; basal margin bisinuate, side border narrow, slightly sinuate below shoulder and more strongly near apex, which is minutely dentate; striae moderately strong, faintly crenulate, a well-developed scutellary striole between 1 and suture, intervals smooth, flat on disk, more convex towards sides. Both elytra have pin-holes through them, but there are apparently three punctures on interval 3, viz. 1 at a fifth from base (adjoining stria 3), 2 just before middle (in middle of interval), and 3 at three-fourths (adjoining stria 2); the punctures on interval 9 widely interrupted in middle.

Underside smooth, shiny, prosternal process not bordered, metepisterna very long and narrow, surface a little uneven, sides of ventral surface minutely wrinkled, last segment with two setae on each side. Tibiae not grooved on outer side, upper surface of tarsi grooved on both sides, under surface clothed with dense yellow

hairs, fourth joint bilobed on all feet, outer lobe longer in intermediate and hind pairs.

I do not know of any other species with which I can usefully compare this, the swollen head, small but very prominent eyes, and *Nebria*-like thorax giving it an appearance unlike that of the other species of the genus known to me.

14. *Lesticus (Omaseus) viridicollis*. A great stumbling-block to the entomologists of the early part of last century. Dejean (Spec. Gen. iii, 1828, 183) described a specimen which he supposed to belong to Macleay's species as *Trigonotoma viridicollis*: this, however, *teste* Chaudoir (Ann. Soc. Ent. Belg. xi, 1868, 151), belongs to a different genus and is identical with Brullé's *Trigonotoma indica* (Audouin and Brullé's Hist. Nat. Ins. iv, 1834, 333). Brullé also described a *Trigonotoma viridicollis* (l.c. 333, t. 12, f. 5), which he took for Macleay's species: this is identical with *Lesticus buqueti* Cast. (Et. Ent. 1834, 77). Some descriptive notes on the species have been made by Tchitcherin (Hor. Soc. Ent. Ross. xxxiv, 1900, 176). It is now fairly well known and seems to be confined to Java.

15. *Catadromus tenebrioides* Oliv. Described by Olivier (Enc. Méth. v, 1790, 324) and subsequently figured (Ent. iii, 1795, 35, 17, t. 6, f. 67), this species does not need further comment from me. I believe it to be confined to Java.

Macleay, in an "Observation," differentiates his genus from *Omaseus*, but thinks it allied to *Platysma* and *Brosicus*. Without any near Eastern congeners, *Catadromus* is related to the two first-named genera, but far removed from *Brosicus*.

16. *Dicoelindus felspaticus*. The species is figured in the plate (t. 1, f. 6), but has not hitherto attracted attention. Schaum (see Berl. Ent. Zeit. 1863, 86) examined this insect at the British Museum, and expressed the view that it belonged to the genus *Abacetus*. Chaudoir (Bull. Mosc. 1869, ii, 356) was sceptical about this, and quite rightly so.

Bates (Ann. and Mag. of Nat. Hist. 5, xvii, 1886, 145) described a Ceylon species taken by Mr. G. Lewis as ? *Lagarus impunctatus*, and six years later (Ann. Mus. Civ. Gen. 1892, 365) he formed the genus *Arsenoxenus* for a species taken by Mr. Fea in Burma, to which he gave the name of *A. harpaloides*. Tchitcherin (Hor. Soc. Ent.

Ross. xxxiv, 1900, 476) drew attention to the fact that Bates' Ceylon species also belonged to the genus *Arsenoxenus*, and expressed surprise that Bates should not have detected this. Actually Bates' genus is identical with Macleay's *Dicoelindus*, and his *A. harpaloides* with *D. felspaticus*.

Macleay thought his genus was connected through *Microcephalus* with *Dicoelus*; these are American genera, regarding which I can express no opinion. Bates says that his *Arsenoxenus* is allied to *Loxandrus*. No doubt *Dicoelindus* belongs to the group Pterostichini, but, as Bates points out, it differs from all members of that group in that the front tarsal joints of the ♂ are not dilated.

In addition to Java, I have records from Palon, Bhamo, Tharrawaddy, and Rangoon in Burma, Jorhat in Assam, and Dacca and Sahibganj in Bengal.

17. *Amblystomus (Trechus) convexus*. Macleay put this insect under *Trechus* with considerable doubt. He tells us that the unique specimen was even then (1825) in such a bad state that he was unable to examine it for fresh generic characters. The species is, I think, the only one belonging to the genus *Amblystomus* so far recorded from Java. I add what I can to Macleay's description.

Amblystomus convexus. Length 3·25 mill. Width: head ·75, thorax 1·00, elytra 1·50 mill.

Black, moderately shiny, mouth parts and legs reddish-brown.

Head wide, smooth, convex, frontal foveae shallow, elypeus emarginate, only slightly asymmetrical; eyes flat.

Prothorax transverse, widest before middle, a little emarginate in front, rounded behind, the sides of the base coming forward to meet the hind angles, which are obtuse; sides narrowly bordered, not sinuate behind; surface smooth, convex, rather flattened out near hind angles, transverse impressions fairly well marked, median line faint.

Elytra parallel, shoulders strongly marked, rounded behind without sinuation near apex, striae faint and very faintly punctate, obsolete at sides.

The species resembles in form the example of Motschulsky's *A. (Hispalis) fuscescens* (Et. Ent. 1858, 23) from F. Walker's Collection, now in the British Museum, but it is smaller and the hind angles of the thorax are less rounded.

18. *Gnathaphanus vulneripennis*, Macleay's genus has

been dealt with by Lacordaire (Gen. Col. i, 1854, 299), Chaudoir (Ann. Mus. Civ. Gen. xii, 1878, 503), and Mr. Sloane (Proc. Linn. Soc. N.S.W. 1898, 456); it was also redescribed by W. Macleay, jun., under the name of *Pachauchenius* (Trans. Ent. Soc. N.S.W. i, 1864, 117).

The species was figured by Hope (Col. Man. ii, 1838, t. 2, f. 2). Dejean described it (Spec. Gen. iv, 1829, 261) as *Harpalus subcostatus*, and Boheman (Eug. Res. Zool. Col. 1861, 10) as *Platymetopus melanarius*. It does not seem common anywhere, but has a wide range. My notes give the following localities:—Ceylon, Kampa (Central Provinces), Dacca (Bengal), Sylhet, Burma, Indo-China, China, Philippine Is., Java, Borneo, and Celebes.

Macleay thought that *Harpalus thunbergi* Quens. (Schönh. Syn. i, 1806, 188 (note)) belonged to his genus *Gnathaphanus*, but it is actually placed in Dejean's genus *Platymetopus*.

19. **Gnathaphanus (Harpalus) punctilabris.** The type is a ♀, but there were in all 2 ♂♂ and 2 ♀♀ in Dr. Horsfield's Collection. Macleay did not realise that the species actually belonged to his own new genus. I think it extremely likely that Dejean's *Anisodactylus javanus* (Spec. Gen. iv, 1829, 146) will prove to be the same species. Walker subsequently redescribed it (Ann. and Mag. of Nat. Hist. 3, iii, 1859, 51) as *Harpalus dispellens*. Bates might have dispensed with the speculations he indulged in regarding the species (Ann. Mus. Civ. Gen. 1892, 327) by examining Macleay's type.

The species is very common, and widely spread throughout S.E. Asia, including the Philippine Is. and the Malay Archipelago. Both Macleay's and Walker's descriptions are very inadequate, and, although Dejean's is much fuller, I am not quite sure that his species is identical with Macleay's, so I have described it afresh.

Gnathaphanus punctilabris, ♀. Length 13 mill. Width: head 3·5, thorax 4·25, elytra 5·25 mill.

Black, mouth-parts a little reddish; surface dull (♂ rather more shiny).

Head convex, smooth, clypeal suture fine, but well marked, ending in a small fovea, from which a fine line runs obliquely backwards to the eye; clypeus with a setiferous puncture near the front angles; eyes moderately prominent, antennae reaching well beyond base of prothorax.

Prothorax flat, declivous towards front angles, moderately emarginate in front, truncate behind, widest before middle, sides narrowly bordered and gently rounded, with a large setiferous pore at one-third from apex, front angles a little, hind angles strongly rounded, though still quite evident; surface smooth, rather silky in appearance, transverse impressions faint, median line fine, reaching extremities, a large flat round finely-punctate fovea on each side of base, the puncturation extending vaguely along margin towards front angles.

Elytra square at shoulders, nearly parallel, sinuate before apex, striae sharply incised, finely crenulate, a scutellary striae between 1 and 2, intervals only slightly convex, smooth, but finely punctate close to apex, 3, 5, and 7 with a row of punctures, third with 7 or 8 punctures all adjoining stria 2, fifth with about 6 adjoining stria 5 in front and 4 near apex, seventh with about 6 adjoining stria 7 and all on the apical half of the elytra, ninth with a row of large umbilicate pores, setiferous near base and apex.

Underside shiny, smooth, prosternal process not bordered, with a few bristles at apex; metepisterna bordered at sides, much longer than wide; last ventral segment with two setae on each side at a little distance from margin (♀), with one seta only on each side, actually on the margin (♂).

Tarsi pubescent on upper surface, and densely clothed with hairs underneath; dilated joints of front tarsi in ♂ wide, contracted at base, joint 1 smaller and more triangular than the others, joint 2 largest; joint 5 with setae beneath.

The species is very closely allied to *G. acutipennis* Bates (Ann. Mus. Civ. Gen. 1892, 328) from India and Burma. Hind angles of thorax more evident, as are the pores on intervals 3 and 5 of the elytra (in *G. acutipennis* there are no pores on 7), and the sinuation at the apex is less deep. A point which Bates does not mention is that, whereas in *G. acutipennis* there are two marginal pores on the prothorax, one at a third from apex, the other at a fourth from base, *G. punctilabris* has only the front one.

20. *Platymetopus* (*Harpalus*) *punctulatus*. Macleay left this insect in the genus *Harpalus* because it was such a poor specimen that he could not determine the generic characters satisfactorily. The description being very inadequate, I give some further particulars.

Platymetopus punctulatus, ♂. Length 8 mill. Width 3.5 mill.

Very dark brown, with an aeneous tinge over the upper surface; legs (except coxae), base of antennae, and mouth parts red. The upper surface was no doubt closely pubescent, as in allied species, but this pubescence has largely worn away.

Head wide, very short, convex, closely and finely punctate throughout, frontal foveae shallow, eyes rather flat, antennae stout, reaching base of prothorax.

Prothorax transverse, about a third as wide again as head, rather flat, but declivous towards front angles, emarginate in front, nearly straight behind, widest a little before middle, sides gently rounded; front angles fairly sharp, hind angles obtuse but not rounded; surface rugose-punctate, punctures fine but with many coarser ones in addition, transverse impressions obsolete, median line sharply incised, but extending over less than a third of the length, and rather nearer base than apex, basal foveae wide and shallow.

Elytra about one-fourth as wide again as prothorax, sides gently rounded and sinuate before apex, punctate-striate, intervals flat, closely punctate, the odd ones a little wider than the even ones, ninth with large shallow punctures, more numerous towards apex.

Underside shiny, more finely and much less closely punctate than the upper surface, ventral surface with an elongate depression in middle near base, penultimate and antepenultimate segments finely bordered behind. Tarsi pubescent on upper surface; the front and intermediate tarsi ♂ are narrowly dilated, and apparently clothed with whitish scales, but their condition does not allow this to be seen at all clearly.

There is a second specimen in the British Museum Collection, also from Java, which I think belongs to the same species; in this there is a seta on the margin of the prothorax at one-third from apex, which is not visible in the type.

I have compared the type with a specimen taken by Mr. Lewis in Ceylon and determined (I think rightly) by Bates, as *P. (Ophonus) senilis* Nietn. (Journ. As. Soc. Bengal, 1857, ii, 150). The two species are very much alike, but the Javan insect is a little smaller, the front margin of the prothorax is less emarginate, and the angles therefore less evident, the surface is more rugose, especially on disk, and the median line much shorter (though this may be an individual peculiarity), the odd intervals of the elytra are relatively wider, and are not more convex than the even ones.

21. *Hypharpax (Amara) tricolor*, Macleay's three species

of *Amara* have nothing to do with that genus, which is a palaearctic one. His *A. tricolor* is the ♀ of *Hypharpax lateralis*, and I shall refer to it again under that species.

22. *Gnathaphanus (Amara) subolivaceus*.

23. *Gnathaphanus (Amara) subaeneus*.

There is one example of each species. I see no reason to doubt their identity, and I give a description below.

Gnathaphanus subolivaceus, ♂. Length 8 mill. Width: head 1.75, prothorax 2.75, elytra 3.25 mill.

Gnathaphanus subaeneus, ♂. Length 7 mill. Width: head 1.50, prothorax 2.25, elytra 2.75 mill.

Black-brown, upper surface dark aeneous, rather shiny; front margin of clypeus and of labrum, palpi, joint 1 of antennae, trochanters, tibiae (darker at apex), and tarsi reddish.

Head smooth, convex, clypeal suture fine, ending in a minute punctiform fovea, around which the surface is slightly depressed; eyes moderately prominent; antennae reaching just beyond base of prothorax.

Prothorax smooth, more or less quadrate, rather flat, a little emarginate in front, truncate behind, a little narrower in front than behind, all margins bordered, but the border is obsolete in the middle of front and hind margins; sides gently rounded, without sinuation, a (presumably setiferous) pore at one-third from apex, front angles rounded, inconspicuous, hind angles obtuse, a little rounded; surface smooth, transverse impressions and median line very faint, a shallow fovea on each side, which is minutely punctate.

Elytra rather short, with well-marked shoulders, margin obtusely angulate at shoulder, sinuate before apex; striae well marked, impunctate, a scutellary striole between 1 and 2, intervals flat on disk, more convex at sides, almost carinate near apex, 3 with two or three punctures near apex, the odd intervals (especially 3) wider near apex than the even ones, 9 with a row of large umbilicate punctures, interrupted in middle, and a few smaller ones mingled with them.

Underside smooth, prosternal process not bordered, a few stiff hairs at apex, metepisterna elongate, bordered, last ventral segment with one pore on each side close to margin. Tarsi pubescent on upper surface, clothed beneath with a dense brush of hairs; four dilated joints (♂) in both front and intermediate tarsi, joint 4 emarginate, joint 1 in front legs equal in length to the other joints, but a little narrower and more triangular, joint 1 in intermediate legs half as long again as the other joints, in hind legs $1 = 2 + 3$;

front tibiae with two or three minute bristles on outer side close to apex.

G. subaenea differs only from *G. subolivacea* in being smaller, and in having a prothorax a little longer, a little narrower, and with hind angles a little less rounded. I cannot doubt, however, that the two species are identical.

Closely allied to *G. impressipennis* Cast., thorax narrower, basal foveae and median line much less marked; elytra rather more shiny, striae shallower, third interval only with punctures, and these only two or three in number towards apex.

24. *Dioryche torta*. Figured by Hope (Col. Man. ii, 1838, t. 2, f. 4), I think Macleay is probably right in supposing that *Carabus flavilabris* Fab. (Suppl. Ent. Syst. 1798, 59) belongs to this or an allied genus, though I do not know the Fabrician type. Hope took the same view (Col. Man. ii, 1838, 90). Motchulsky (Et. Ent. 1855, 43) put the species under the genus *Platymetopus*.

The specimen of *D. torta* is unique in the Museum collection, and as it is the type of a considerable genus, I have described it in some detail. I have in my collection a single specimen, also from Java, given to me by Mr. Sloane.

Dioryche torta, ♂. Length 7 mill. Width: head 1.50, prothorax 2.25, elytra 3.00 mill.

Black, shiny, upper surface brassy, labrum dark brown, palpi and legs yellow, antennae reddish.

Head wide, shiny, finely punctate, clypeus emarginate, leaving the basal membrane of the labrum exposed, clypeal suture fairly deep, ending in a punctiform fovea, from which a fine line runs obliquely backwards towards the eye; eyes rather flat, mandibles short and very strong.

Prothorax transverse, not very convex, declivous to front angles, rather strongly emarginate in front, nearly straight behind, widest before middle, sides rounded in front then quite straight to hind angles, finely bordered, the border extending a little way from each angle along the front and basal margins, a setiferous pore at a third from apex, front angles rather sharp though rounded, hind angles obtuse, not much rounded; surface shiny, finely but not closely punctate, front transverse impression very shallow, hind one rather deeper, median line fine extending between them, a large shallow fovea on each side of the base, which is more closely punctate than the general surface.

Elytra fairly short, with well-marked shoulders, at which the border is distinctly angled, margin strongly sinuate before apex; striae well marked, impunctate, a long scutellary striole between 1 and 2, intervals flat, narrow and convex towards apex, where the odd are a little wider than the even ones, very finely but not closely punctate, 3, 5, and 7 with a series of about 15 larger punctures, on 3 adjoining stria 2, on 5 adjoining stria 5, and on 7 adjoining stria 7, 8 a little carinate towards apex, 9 wide—especially behind where the sinuation occurs and where there are two or three very large punctures.

Underside smooth, shiny, prosternal process not bordered, metepisterna long and narrow with a furrow on inner side; last ventral segment with two setae on each side, both on the margin and widely distant from each other. Tarsi smooth on upper surface; front and intermediate tarsi (♂) with the first four joints narrowly dilated, and apparently clothed with scales beneath; I cannot, however, see this as clearly as, from his figure, Hope must have done.

In the fig. the ligula and labial palpi are badly done; the former is very narrow, with two bristles (one has disappeared), and it is enveloped by the paraglossae, which are glabrous, truncate in front, with the angles rounded. The penultimate joint of the labial palpi is plurisetose.

Platymetopus amoenus was described by Dejean (Spec. Gen. iv, 1829, 73) from Java, and Bates identified with it a number of specimens from Bengal and Burma, some of which are in my collection. These insects are evidently closely allied to *D. torta*, but I doubt their identity with it, and I am not convinced that Bates' determination is correct. I think probably *D. torta* = *P. amoenus*, and hope to elucidate this later on. Meanwhile I prefer to compare Macleay's species with *D. (Selenophorus) colombensis* Nietn. (Journ. As. Soc. Bengal, 1857, ii, 151). Size larger, colour very similar—though a little more coppery; head much larger compared with prothorax; latter a little more convex and much more roughly sculptured; elytra less elongate, striae deeper, intervals more strongly punctured.

As I have maintained both the genera *Platymetopus* and *Dioryche*, hitherto treated as synonyms, I ought perhaps to say a word or two about them. Lacordaire (Gen. Col. i, 1854, 300) made *Platymetopus* the genus and *Dioryche* (which he spells inaccurately *Dyoryche*) the synonym. Gemminger and Harold (Mun. Cat. 1868, 287) reversed this

process, and in doing so aroused the ire of Bates (Trans. Ent. Soc. 1873, 271). I regard the genera as distinct, and am glad to find that Mr. T. G. Sloane takes the same view: I note, too, that Mr. Alluaud (Bull. Soc. Ent. Fr. 1917, 321) seems to have come to the same conclusion. The two genera have a very different appearance, but the head, the mandibles, mentum, palpi, etc., are very similar: on the other hand, there is a striking difference in the paraglossae, which does not seem hitherto to have attracted attention. I give a brief synopsis:—

Dioryche. Ligula small, bisetose, surrounded by the paraglossae, which are glabrous and just meet above it, at which point there is an indentation, their front margin truncate, the angles rounded; mentum edentate; penultimate joint of labial palpi plurisetose; upper surface brassy in colour, glabrous, elytra with seriate punctures on one or more of the odd intervals; upper surface of tarsi glabrous.

Platymetopus. Ligula, mentum, and labial palpi as in *Dioryche*. paraglossae with more rounded sides, from which project on each side 6 or 8 stiff bristles; upper surface very dark, densely pilose, elytral intervals without seriate punctures; upper surface of tarsi pilose.

Among the species originally included by Dejean in the genus *Platymetopus*, there is only one (*P. amoenus*) which belongs to *Dioryche*.

25. **Hyphaereon reflexus.** Hope figures this species (Col. Man. ii, 1838, t. 2, f. 5), but I can find no further references to either genus or species.

Macleay's account of his genus is incomplete, and I therefore give a few further details, though I have not been able to dissect the mouth-parts as I should like to have done.

Ligula of medium length, a little widened at apex, bisetose; paraglossae narrow, divergent, a little longer than ligula, which is free at apex; last joint of maxillary palpi tapering, rounded at apex, second and fourth joints equal, third a little shorter; last joint of labial palpi a little shorter than penultimate, which is plurisetose; mentum with a short rounded tooth (not acute, as in both description and illustration), at base of which are two setae; maxillae curved and sharply pointed, with a row of dense hairs on inner margin; mandibles long, curved, and pointed.

Hyphaereon reflexus, ♀. Length 7 mill. Width; head 1·3, prothorax 2·0, elytra 3·0 mill.

Pitch black, slightly iridescent; antennae (except 1st joint) brown; margins of labrum and clypeus, joint 1 of antennae, palpi, maxillae, mandibles (except apex), apex of elytra and abdomen, and legs reddish-yellow, femora rather lighter.

Head smooth, rather small, labrum truncate, with a few large scattered punctures, clypeus truncate, bisetose, suture very fine, frontal foveae deep, continued as a fine line towards the eye; eyes moderately convex, not reaching buccal fissure; antennae pubescent from middle of joint 3, joint 2 about half as long as 3, joint 3 = 1, the others a little shorter.

Prothorax transverse, widest a little before middle, emarginate in front, truncate behind, finely bordered throughout except in middle of front margin; sides rounded, more contracted in front than behind, narrowly but fairly strongly reflexed in front, more widely behind, a setiferous pore rather before middle, none at basal angle; front angles rounded, hind angles a little obtuse, with a minute sharp tooth at apex; disk smooth, convex, and highly polished, transverse impressions and basal foveae shallow, a fine median line hardly reaching base or apex, whole basal area densely punctate, middle of front margin finely punctate. Elytra smooth and glabrous, rather more than two and a half times as long as prothorax, nearly parallel, the border angled at shoulder and slightly sinuate near apex; striae well marked, impunctate, a scutellary striole between 1 and 2; intervals flat, more convex towards apex, a series of half a dozen small pores on third interval, adjoining stria 2.

Abdomen smooth, prosternal process not bordered, metepisterna not much longer than wide, smooth, bordered; ventral segments with a shallow basal impression on each side near margin, a seta on each side of median line, the two setae rather close together on last segment and a little removed from margin. Tarsi smooth on upper surface, joint 1 of front tarsi a little shorter than 2 + 3 + 4, hind tarsal joints long, 1 = 2 + 3.

In Hope's figure the head is too big and too wide, the eyes are too prominent, the prothorax is too much rounded both in front and behind, the reflexed margin—which should be specially indicated at the hind angles—is hardly noticeable; the apex of the elytra is a great deal too much rounded, and the whole of it appears to be of a uniform dull red tint. Actually the extreme hind margin is tinged with red, the colour extending backwards some little way along striae 7 and (especially) 8.

I know of no other insect to which I can profitably compare this one.

26. *Hypharpax lateralis*, ♂ = *H. (Harpalus) dentipes* Wied. (Zool. Mag. ii, 1, 1823, 54). Hope has given a figure of the ♂ (Col. Man. ii, 1838, t. 2, f. 3). It was no doubt the different appearance of the sexes, which led Macleay to describe the ♀ as *Amara tricolor* (see above). Redtenbacher described the species again (Reis. Novar. Zool. ii, Col. 1867, 14, t. 1, f. 7) under the name *Sagraemerus javanus*, and further remarks have been made on it by Dr. Veth (Tijds. v. Ent. liii, 1910, 305). The genus extends to Australia, and has been discussed by Chaudoir (Ann. Mus. Civ. Gen. xii, 1878, 496) and Mr. Sloane (Proc. Linn. Soc. N.S.W. 1898, 456). The species is apparently confined to Java.

27. *Anaulacus sericipennis*. Figured on the plate (t. 1, f. 4). Both this and the succeeding genus are very closely allied to Dejean's genus *Masoreus* (Spec. Gen. iii, 1828, 536): further remarks on it have been made by Schaum (Berl. Ent. Zeit. 1863, 76), and Chaudoir also discusses it in his "Étude monographique des Masoréides, etc." (Bull. Mosc. 1876, iii, 12 and 25). I have seen no other example of the species, of which I will give some further description.

Anaulacus sericipennis, ♀. Length 6 mill. Width: head, 1·3, prothorax 2·1, elytra 2·5 mill.

Black, shiny, surface of elytra opaque silky; two spots on each elytron, legs (exc. tarsi), palpi, and joint 1 of antennae yellow-red; border of prothorax, apex of abdomen, tarsi, rest of antennae and mouth-parts reddish.

Head wide, smooth, convex but flat on disk, clypeal suture very faint ending in a minute pore, clypeus a little emarginate in front, a setiferous pore at each front angle, frontal impressions obsolete, labrum 6-setose; eyes prominent, hemispherical, one supra-ocular pore; antennae short and compact, hardly reaching base of thorax, joint 1 stout, twice as long as 3, which is a little longer, while 2 is a little shorter than the remaining joints.

Prothorax rather more than twice as wide as long, flat, convex at sides, emarginate and a little bisinuate in front, basal margin gently rounded and bisinuate in middle; moderately contracted in front, very little behind, sides finely bordered, with half a dozen large pores within the border, from which issue long bristles, one of them being on the border exactly at the basal angle; surface smooth, transverse impressions obsolete, median line fine, some faint longitudinal wrinkles along base, a short fine impressed line on each side, nearer middle than side margin.

Elytra short, shoulders very square, base exactly equalling base of prothorax, obliquely truncate, almost rounded behind, the truncature (of each elytron) almost straight; striae obsolete, but visible on the coloured spots, where traces of punctures can be seen, sutural stria more evident towards apex, close to which is a setiferous umbilicate pore, while just in front of this stria 8 is for a short distance strongly impressed, interval 9 with a row of large umbilicate pores, interrupted in middle, no doubt setiferous, though nearly all the setae have vanished; surface very smooth and silky. Front spot larger than hind one, in the form of a short blunt spearhead, directed towards, but not quite reaching the shoulder, and extending to a little less than one-third from base, hind margin tridentate, not reaching either side margin or suture; hind spot about half the size of front one, transverse, extending over intervals 4-8, widest externally, projecting furthest forward on 6 and 8, and emarginate behind. I am not able to detect any pores on interval 3.

Underside smooth, prosternal process bordered between coxae, but only faintly at apex, which is glabrous; last ventral segment with a seta on each side, close to margin. Front tarsi with joint 1 = 2 + 3 + 4, intermediate tarsi with 1 shorter than 2 + 3 + 4, hind tarsi wanting; front tibiae with half a dozen stout spines on outer margin, intermediate and hind tibiae with a row of bristles on outer margin.

A good deal narrower than *A. fasciatus*, Schm.-Goeb. (Faun. Col. Birm. 1846, 89). Head and prothorax very similar, but in *A. fasciatus* the short sulci on each side of the base of the prothorax are broader and shallower; further there are only two setae along the border, one at a third from apex and one on the border at basal angle. In *A. fasciatus*, too, the elytra are wider, and the striation is more evident, while the yellow markings, which are not in the form of spots, cover the whole of the basal area and the sides of the apex.

28. *Aephnidius adelioides*. Figured on the plate (t. 1, f. 7). For further information consult Schaum (Berl. Ent. Zeit. 1863, 76) and Chaudoir (Bull. Mosc. 1876, iii, 11 and 15). The species is a common one and has a wide range; it was redescribed from Queensland by Mr. T. G. Sloane under the name of *Masoreus australis* (Proc. Linn. Soc. N.S.W. 1904, 535). I have records from all parts of the East, from India through S. China to Japan, and southwards through Indo-China and the Malay Archipelago to Australia.

29. *Coelostomus picipes*. Figured by Hope (Col. Man. ii, 1838, t. 2, f. 6). Nothing further has apparently been published regarding this genus or species, and as both names replace later ones, I must go into some detail.

Under the name of *Drimostoma striatocolle* (Spec. Gen. v, 1831, 747) Dejean described a species from Senegal, and identified with it another example he had received from the "Indes Orientales." A new species was described by Nietner from Ceylon (Ann. and Mag. of Nat. Hist. 3, ii, 1858, 178) as *Drimostoma ceylanicum*, and in the year following Motchulsky (Et. Ent. 1859, 34, t. 1, f. 6) described a new genus and species under the name of *Stomonaxus sculptipennis*. Two years later Boheman (Eug. Res. Zool. Col. 1861, 13) published his *Drimostoma rufipes* from China. In 1872 there appeared a memoir by Chaudoir entitled "Essai monographique sur les Drimostomides" (Ann. Soc. Ent. Belg. xv, 1872), in which *Stomonaxus* was admitted as a genus, and *striaticollis* Dej. appears (p. 13), accompanied by the following synonymy *D. rufipes* Boh., *D. marginale* Walk. (Ann. and Mag. of Nat. Hist. 3, iii, 1859, 51), *S. sculptipennis* ? Motch., and *D. ceylanicum* Nietn. Walker's species, as I shall mention later, belongs to quite a different genus. I think very likely *S. sculptipennis* Motch. = *D. ceylanicum* Nietn., and both may prove to be identical with *D. rufipes* Boh.; I have, however, no means at present of determining this. Bates (Trans. Ent. Soc. 1873, 283) records *S. striaticollis* from Japan, and later on from various other Eastern localities. Tchitcherin described *S. japonicus* (Hor. Soc. Ent. Ross. xxxii, 1898, 14) also from Japan, and two years later (l.c. xxxiv, 1900, 262) published a paper in which he pointed out (1) that Bates' Japanese *S. striaticollis* actually belonged to his *S. japonicus*; (2) that Dejean's *S. striaticollis* from Senegal differed from the Asiatic species, which in his view should bear the name *S. rufipes* Boh.

I find that Boheman's species (though I have not seen the type) is identical with Macleay's, so that a further, perhaps the final change to be made is the substitution of *Coelostomus* for *Stomonaxus* and *picipes* for *rufipes*.

The species is widely distributed throughout S.E. (Continental) Asia, but the type is the only specimen I have seen from the Malay Islands. Tchitcherin, however, records a local form from Borneo under the name of *Stomonaxus borneensis* (l.c. xxxii, 1898, 13, and xxxiv, 1900,

263). Chaudoir informs us (Col. Nov. i, 1883, 39) that the species occurs in Australia.

30. *Clivina sabulosa*. Putzeys did not know this species (Mon. des Clivina et genres voisins, Mém. Liège, ii, 1846, 577), but he rightly supposed (Révision générale des Clivinides, Ann. Soc. Ent. Belg. x, 1867, 119 (note)) that it belonged to his *lobata*-group. I have not been able to identify it with any other described species, so I give some further details.

Clivina sabulosa. Length 6 mill. Width 1·5 mill.

Brown, shiny, head and thorax a little darker than elytra, tip of mandibles black, palpi testaceous.

Head flat and smooth on vertex, a small shallow puncture in the middle, and a longitudinal furrow at each side near eye, bounded outwardly by a ridge, neck constricted, clypeal suture well marked, clypeus moderately emarginate, without any angle in the middle, surface a little uneven near angles, otherwise fairly smooth, the median portion of the clypeus is a little in advance of the rounded lateral parts, and separated from them by a deep notch, a smaller notch separating them on the other side from the frontal plates, frontal impressions very deep; labrum truncate, mandibles short and strong but acute, antennae not quite reaching base of prothorax, last 8 joints moniliform, surface of mentum very uneven, side lobes truncate in front.

Prothorax quadrate, a little wider than head, slightly narrower in front than behind, bordered at base and sides, the latter slightly sinuate, with a seta at one-third from apex, a small tooth with a second seta marking the hind angles, a strong groove running along the margin between the two setae; surface smooth, convex, some rather faint punctures on disk at each side, a furrow separating the general surface from the middle of the basal border.

Elytra elongate, about as wide as thorax, punctate-striate, with a long scutellary striole, intervals smooth, convex, 3 with four well-marked pores, 8 carinate at shoulder and apex; first three striae free at base, marginal channel carried round shoulder to base of 5, which joins 4, inner striae not continued to apex, a narrow smooth shiny space being left between their termination and the apical portion of stria 7.

Underside coarsely and confluent punctate, more coarsely on head, less so on ventral surface, which is smooth in the middle of the base, prosternum finely channelled in front of coxae, two setae, placed close together, on each side of margin of last ventral segment. Front femora strongly dilated, but (excluding the projecting

trochanter) with only a small tooth on inner margin near apex; front tibiae sulcate, strongly digitate, but without any smaller teeth, though the margin is a little dilated behind the digitation, intermediate tibiae with a strong spine, at about one-third from apex.

I have compared the type with an example from Ceylon, determined by Bates as *C. elongatula* Nietn. (Journ. As. Soc. Beng. 1856, v, 390).

Macleay's species is very similar, but lighter in colour, the whole surface of the head much smoother, joint 2 of the antennae wider and longer, thorax less parallel, puncturation similar, but no transverse striation, elytra shorter.

31. *Scarites semicircularis*. Chaudoir was unable to identify Macleay's species (Mon. des Scaritides, Ann. Soc. Ent. Belg. xxiii, 1880, 127), but I feel no doubt that his own *S. subproductus* (Mon. 90) from Siam is the same species. I have seen no other specimen from Java, but Mr. Lesne (Miss. Pavie 1904, Col. 63) records the species from Cambodia, and Mr. Vitalis de Salvaza has in recent years taken it commonly in Tonkin, Laos, and Annam.

Macleay thought his species might be Wiedemann's *Scarites punctum* (Zool. Mag. ii, 1, 1823, 38), which comes from Bengal and not from Senegal as indicated; this seems very unlikely. I find that Wiedemann's description agrees very well with Chaudoir's *Distichus (Taeniolobus) puncticollis* (Bull. Mosc. 1855, i, 47), which ought in that case to take the name of *D. punctum* Wied.

32. *Distichus (Scarites) indus*. Identified by Macleay with Olivier's *Scarites indus* (Ent. iii, 36, 1795, 9, t. 1, f. 2). This was an error, as the insect belongs to Motchulsky's genus *Distichus* (Et. Ent. 1857, 96). No other *Distichus* is recorded from Java, and the nearest species seems to be Chaudoir's *D. dicaelus* (Mon. 52) from Singapore. Macleay's insect does not quite agree with Chaudoir's description, so I give a fresh one under the name of *D. macleayi*.

Distichus macleayi. Length (incl. mand.) 12 mill. Width 3 mill.

Black, shiny, base of antennae, palpi, and legs more or less dark red.

Head quadrate, with the front angles rounded, middle of front and a small area near front angles smooth, all the rest of the surface including the shallow frontal impressions longitudinally striate, a

few punctures behind at sides, extending on to the neck, which is otherwise smooth; clypeus a little emarginate in middle, with two short teeth at the ends of the emargination, and two minute protuberances in the middle of it, labrum with 3 setae and a median tooth, mandibles large, flat, a little striate on upper surface, the inner carina running straight from base to apex; eyes small, enclosed behind by the genae, which project outwards to the same level as the eye, antennae short, almost moniliform, not reaching base of prothorax.

Prothorax a trifle wider than head, emarginate in front, widest just behind front angles, which are rather sharp and projecting, gradually narrowed to hind angles, which are faintly dentate; sides bordered, a seta at a fifth from apex and another at hind angle, basal margin bordered; front transverse impression deep, rather distant from margin, median line well marked, not reaching extremities, but joining the front impression; surface smooth, base finely rugose.

Elytra as wide as prothorax, parallel, dentate at shoulder, striae well marked, crenulate, no scutellary striole, intervals smooth, 3 with a large setiferous puncture at two-thirds from base and another close to apex, 8 and base finely and densely aciculate, marginal row of punctures close and uninterrupted.

Underside, except along median line, finely and densely punctate; paragenae both emarginate and dentate, prosternal process not bordered, metepisterna elongate, two setae on each side of last ventral segment; front tibiae with two extra denticulations, intermediate tibiae with a strong spur near apex.

Macleay's insect is evidently related to Chaudoir's *D. dicaelus*, of which I have not seen an example. The latter, however, is smaller, has a sharp prominent tooth at the hind angle of the prothorax, which is finely punctured instead of smooth, while the sides of the base are apparently punctured instead of rugose.

33. *Mochtherus (Dromius) tetraspilotus*. Macleay perceived that his insect did not accord very well with the genus *Dromius*. He thought it allied to *Carabus notulatus* F. (Syst. Eleuth. i, 1801, 201), a species now to be included in the genus *Craspedophorus*, and therefore far removed from *Dromius*. The genus *Mochtherus* is due to Schmidt-Goebel (Faun. Col. Birm. 1846, 76), and it is dealt with both by Bates (Ent. Month. Mag. vi, 1869, 71), and by Chaudoir in his "Mémoire sur les Coptodérides" (Ann. Soc. Ent. Belg. xii, 1869, 240). The species is widely

distributed and much described, as will be seen from the following synonymy:—

- Dromius tetraspilotos* Macl., Ann. Jav. 1825, 25.
Thyreopterus tetrasemus Dej., Spec. Gen. v. 1831, 448.
Mochtherus angulatus Schm.-Geob., Faun. Col. Birm. 1846, 76.
Panagaeus retractus Walk., Ann. and Mag. of Nat. Hist. 3, ii, 1858, 203.
Cyrtopterus quadrinotatus Motch., Bull. Mosc. 1861, i, 106.

It is spread over the whole of the Indo-Malay region, including Indo-China, and extends to Christmas Island; I have, however, seen no examples from China or Japan in the north, or from New Guinea or Australia in the south.

34. *Colpodes (Lamprias) ruficeps*. The species belongs to Macleay's own genus *Colpodes*, a circumstance he did not detect. Eschscholtz (Zool. Atl. ii, 1829, 6, t. 8, f. 3) provided for it a new genus, which he named *Loxocrepis*. Brullé (Audouin and Brullé's Hist. Nat. Ins. iv, 1834, 325, t. 12, f. 2) adopted Eschscholtz's name, but applied it to a different species, viz. *Dicranoncus amabilis* Chaud. (Ann. Soc. Ent. Fr. 1859, 350 (note) and 359). Bates quite misconceived Macleay's species, and followed Brullé: the various references to *Colpodes ruficeps* Macl. in Bates' works (Trans. Ent. Soc. 1883, 263; Ann. and Mag. of Nat. Hist. 5, xvii, 1886, 147; Ann. Mus. Civ. Gen. 1892, 376) must all be read as *Dicranoncus amabilis* Chaud. Bates commented on the species freely, and blamed Chaudoir—quite rightly—for confusing with it Schmidt-Goebel's *Euplynes cyanipennis* (Faun. Col. Birm. 1846, 52). Chaudoir, however, knew Macleay's species, and refers to it correctly both in his "Monographie du genre *Colpodes*" (Ann. Soc. Ent. Fr. 1859, 348), and in his subsequent "Révision des *Colpodes*" (Ann. Soc. Ent. Fr. 1878, 376), but he did not know the genus *Euplynes*, and even went so far as to propose the new name of *schmidti* for Schmidt-Goebel's species (Mon. 360). Chaudoir gives a full description in his Monograph (p. 348), and I need not therefore give a fresh one. Eschscholtz's example was taken at Manilla. Apart from the type, all the examples I have seen came from India and Ceylon, and Macleay himself remarks that the species appears to be less common in Java than in India.

35. *Callida (Lebia) splendidula*. This species is not intro-

duced by Macleay as being identical with *Carabus splendidulus* F., but they are in fact the same, and it seems to be only a coincidence that Macleay gave his specimen the name already employed by Fabricius. Macleay supposed that his species was closely allied to Wiedemann's *Lebia marginalis* (Zool. Mag. ii, 1, 1823, 60), for which a new genus *Promecoptera* was proposed by Dejean (Spec. Gen. v, 1831, 443). I have not at present been able to identify Wiedemann's species, but it cannot be very closely connected with Macleay's, which has pectinate claws and a cleft fourth tarsal joint—characters which are not presented by *Promecoptera marginalis*.

The following references seem worth noting down: Fab., Syst. Eleuth. i, 1801, 184; Dej., Spec. Gen. v, 1831, 341; Schm.-Goeb., Faun. Col. Birm. 1846, 32; Motch., Et. Ent. 1855, 51; Chaud., "Monographie des Callidides." Ann. Soc. Ent. Belg. xv, 1872, 113; Bates, Ann. Soc. Ent. Fr. 1889, 283; *id.* Ann. Soc. Ent. Belg. 1892, 233; Lesne, Miss. Pavie 1904, Col. 81; Maindron, Ann. Soc. Ent. Fr. 1905, 334.

The species has a wide distribution throughout the Indo-Malay region, including South China, Indo-China, and the Philippine Is.

36. **Orthogonius picilabris.** This genus, named by Dejean, was first described in the "Annulosa Javanica," and must accordingly be attributed to Macleay. *O. picilabris* = *O. femoratus* Dej. (Spec. Gen. i, 1825, 281), but Macleay's name has priority. Chaudoir in his "Essai monographique sur les Orthogoniens" (Ann. Soc. Ent. Belg. xiv, 1871, 122) gives priority to Dejean, but he recognised that the two descriptions referred to the same species. In addition to Java, it is recorded by Chaudoir from Penang and Malacca.

37. **Orthogonius brunnilabris** = **O. (Carabus) acrogonus** Wied. (Zool. Mag. i, 3, 1819, 167). The species was also described by Dejean (Spec. Gen. v, 1831, 398) under Wiedemann's name, and its identity with Macleay's species is referred to by Chaudoir in his Monograph (l.c. 104). It appears to be peculiar to Java.

38. **Orthogonius alternans.** Macleay believed that his species was identical with *O. (Plochionus) alternans* Wied. (Zool. Mag. ii, 1, 1823, 52). Chaudoir mentions Macleay's citation (l.c. 102), but expresses no opinion. The species of *Orthogonius* allied to *O. alternans* Wied., with elytral intervals alternately wider and narrower, seem to me

variable, but after comparing Macleay's type with Wiedemann's description, and examining a number of specimens from different localities, I think the species are distinct, and for Macleay's I propose the new name of *O. macleayi*. To settle the matter beyond doubt, it will be necessary to wait till Wiedemann's type is available for examination. Macleay's species seems to be confined to Java. Wiedemann's is recorded also from Burma, Indo-China, and the Philippine Is.

Orthogonius macleayi. Length 18 mill. Width: head 3·25, prothorax 4·5, elytra 6·25 mill.

Dark brown, ventral surface and mouth-parts a little lighter.

Head wide, intricately wrinkled, more lightly behind and more deeply in front, a small smooth space in the middle of front, just behind which are two short impressed longitudinal lines (possibly individual), frontal impressions rather concealed by the strigose surface, clypeus truncate in front, its surface raised in the middle behind, suture deep; labrum porrect, 6-setose, a little raised at side margins; eyes projecting, two supra-orbital setae; antennae short, stout, just reaching base of prothorax; ligula bisetose at apex.

Prothorax slightly convex, much wider than long, truncate in front, a little bisinuate behind, bordered in front and at base, explanate at sides, more widely behind, sides rounded, more so in front than behind, so that the front angles have disappeared, but the hind angles are merely obtuse and rounded; front transverse impression weakly, hind one strongly marked, median line faint, basal foveae deep; surface rather finely transversely wrinkled, more coarsely along base, longitudinally strigose along the front transverse impression, explanate side margin uneven.

Elytra parallel, square at shoulder, a deep impression on each side in front of base of stria 4, margin rounded at apex, punctate-striate, a scutellary striole between 1 and 2, joining 1 behind; odd intervals much wider than even ones, 2 with a single row of punctures reaching middle, 4 irregularly but thinly punctured up to two-thirds from base, 6 more closely punctured (roughly in two rows) up to three-quarters, 8 with an irregular row stopping at two-thirds, 3 with two large setiferous punctures near apex adjoining stria 2, 5 with two or three large setiferous punctures near base, 7—which is very narrow—with a row of about twelve setiferous punctures extending along its entire length (the setae on these are very conspicuous), 9 with an uninterrupted row of large punctures, some of which certainly have small setae.

Underside smooth, prosternal process bordered, metepisterna smooth, elongate, ventral surface with a small callosity on each side of last segment near side margins, two setiferous foveae on each side of anus. Front tibiae dilated at apex into a strong external tooth, joint 4 of tarsi bilobed in all feet, spines on hind tibiae short and strong but not spatulate, claws pectinate (but hind ones wanting).

Compared with Macleay's type, the examples of *O. alternans* Wied. which I have seen are darker and more elongate, the hind angles of the prothorax more rounded, the even intervals of the elytra—especially 6—more finely and much more closely punctured, 7 with only half a dozen setiferous punctures.

39. *Drypta lineola*. Named by Dejean, this species is here described for the first time by Macleay. Dejean described it subsequently (Spec. Gen. i, 1825, 184) and the name has hitherto been ascribed erroneously to him. It is a common species and often referred to in entomological literature; it varies a good deal and several local forms have been described, among which I may mention *D. virgata* Chaud. (Bull. Mosc. 1850, i, 34), which extends over Burma, S. China, and Indo-China, and *D. philippinensis* Chaud. (Bull. Mosc. 1877, ii, 262) from the Philippine Is. Bates' *D. japonica* (Trans. Ent. Soc. 1873, 303) is closely allied, but seems a fairly distinct species. Following Macleay's description is an "Observation," in the course of which he indicates an Australian species under the name of *D. australis*; this may, perhaps, also rank as distinct. In its various forms the species is spread all over S.E. Asia and the Malay region.

40. *Desera (Drypta) unidentata*. Described later on by Klug (Jahrb. 1834, 53) under the name of *D. coelestina*. Both descriptions are so inadequate that I give a more detailed one. The species is apparently confined to Java.

Desera unidentata. Length 11.5 mill. Width: head 1.6, prothorax 1.4, elytra 3.5 mill.

Dark blue, elytra blue-black; femora (except apex) and trochanters, palpi, antennae (joint 1 at base only, joint 3 at base and apex) red; mandibles and tarsi brown; apex of femora, tibiae, joint 1 of antennae (except base) and a ring round joint 3 black. Covered throughout with short grey pubescence.

Head elongate, rather flat, closely, coarsely, and confluent punctate, with a very small, smooth area in middle of front, neck

smooth, clypeal suture fine, labrum with front margin arcuate, two large pores with long setae at each end, a smaller one on each side in the middle, mandibles strong and elongate, palpi very long and slender, last joint securiform and obliquely truncate, much larger in the maxillaries than in the labials, joint 1 of antennae very long = 2 to 6 (about) taken together, eyes prominent, distant beneath from buccal fissure.

Prothorax nearly twice as long as wide, more or less cylindrical, widest at middle, densely and coarsely punctate, more coarsely than head, punctures strongly confluent at sides; sides nearly parallel, moderately constricted at a third from base, side margin well marked in middle only.

Elytra elongate, shoulders strongly rounded, a little widened towards apex, where truncate, outer angle with a short strong tooth, sutural angle fairly sharp but not toothed; punctate-striate with a long scutellary striole between 1 and suture; intervals closely punctate, the punctures much finer than on head and prothorax.

Underside shiny, more finely punctured, and with finer pubescence than upper side; last ventral segment apparently with one large setiferous puncture on each side, but owing to the puncturation and pubescence this is not easy to see. Joint 4 of all the tarsi strongly bilobed; claws finely pectinate.

Colour bluer and darker than in *D. geniculata* Klug (Jahrb. 1834, 52), without any brassy tint, and with black tibiae. Head, prothorax, and elytra all longer, surface rougher and more strongly punctate throughout, outer angle of truncature dentate—not merely sharply angled, joint 1 of antennae relatively longer.

In an "Observation" Macleay incidentally describes *Desera longicollis*, another species hitherto attributed to Dejean (Spec. Gen. i, 1825, 185). The description, it is true, is a slender one, but it must stand. He also adds quite truly that Wiedemann's *Drypta flavipes* (Zool. Mag. ii, 1, 1823, 60) is a distinct species; its locality, however, is N. India, not Brazil.

41. *Pheropsophus* (*Aptinus*) *occipitalis* = *P. fuscicollis* Dej. (Spec. Gen. i, 1825, 306). Although Macleay's description was the earlier, the species has always been known by Dejean's name, probably because Chaudoir, in his "Monographie des Brachynides" (Ann. Soc. Ent. Belg. xix, 1876, 42) wrongly identifies *P. occipitalis* with Dejean's *P. javanus* (l. c. 305). Mr. G. J. Arrow (Trans. Ent. Soc. 1901, 204) first pointed out the identity of *P. occipitalis* and

P. fuscicollis, though he was not then able to determine the question of priority.

Very common in India, Ceylon, and Burma, this species extends through the Malay Peninsula to Java and Borneo, but I have seen no examples from Siam or Indo-China.

Macleay discusses the genera *Aptinus* and *Brachynus*, but *Pheropsophus*, to which his species belongs, was not described till eight years later by Solier (Ann. Soc. Ent. Fr. 1833, 461).

42. **Planetes bimaculatus.** Macleay placed his genus between *Tarus* Clairv. (= *Cymindis* Latr.) and *Helluo* Bon., but it is not very closely related to either genus, and Bates I think is right (Trans. Ent. Soc. 1873, 304) in putting it near *Galerita*. Nietner redescribed it (Journ. As. Soc. Beng. 1857, ii, 141) under the name of *Heteroglossa*, but his *H. bimaculata* (l.c. 144) is another species, identical with *P. ruficeps* Schaum (Berl. Ent. Zeit. 1863, 81). I have seen specimens from Java, Sumatra, Burma, Siam, and Indo-China.

Bates (l.c.) identifies Japanese specimens with this species, and it is one of the few cases in which he tells us he has consulted Macleay's types. I am unable to agree with his identification, or with Putzeys' (Compt. rend. Soc. Ent. Belg. 1875, 52) or Heyden's (Deutsch. Ent. Zeit. 1879, 329), and have recently described the Japanese and Chinese species, of which I have seen a good many examples, under the name of *P. puncticeps* (Ann. and Mag. of Nat. Hist. 9, iii, 1919, 480).

In an "Observation" Macleay refers to several other species, which he supposes to be allied to his. *Carabus stigma* Fab. (Syst. Eleuth, i, 1801, 192) is a *Strigia*, and *Helluo distactus* Wied. is probably a *Creagrís*; neither of these comes very near *Planetes*.

HOPE.

The types of Oriental Carabidae described by Hope and preserved in the British Museum may be divided into three groups, of which the first is the most important.

(1) In the Zoological Miscellany 1831, p. 21, Hope published a "Synopsis of the new species of Nepaul Insects in the collection of Major-General Hardwicke." This synopsis was never amplified, and the descriptions are extremely meagre, seldom exceeding a couple of lines.

As a result the species are little known, and have seldom been referred to by subsequent writers, except occasionally with a mark of interrogation. General Hardwicke's Collection was fortunately bequeathed to the nation, and all the types of the Carabidae in question (with one exception) are at South Kensington.

I propose to go through the various species comprised in this paper in the order in which Hope mentions them, and add such comments and descriptions as appear necessary.

1. *Desera nepalensis*. The genus was indicated rather than described by Hope (Col. Man. ii, 1838, 105). The name never came into general use, and was supplanted by Schmidt-Goebel's genus *Dendrocellus* (Faun. Col. Birm. 1846, 24), which held the field until during the last few years Hope's name was reintroduced by Commandant Dupuis, and as the older name should stand.

Hope's species was identified by Chaudoir (Rev. et. Mag. Zool. 1872, 102) with his *D. rugicollis* (Bull. Mosc. 1861, ii, 546), a name designed to replace *D. flavipes* Schm.-Goeb. (not Wied.) (l.c. 24). With this view I do not agree, and I think Dohrn (Stett. Ent. Zeit. 1879, 457) was probably right in identifying *D. nepalensis* with *D. discolor* Schm.-Goeb. (l.c. 24). Bates later on (Compt. rend. Soc. Ent. Belg. 1891, 336) identified as *D. discolor* some specimens taken in Bengal and Assam, but without attributing them to Hope's species. There are examples in the British Museum from Manipur as well as Nepal, and Mr. R. Vitalis de Salvaza has recently taken specimens at Chapa in Tonkin. I have also in my collection specimens from Madura in S. India. As Schmidt-Goebel's description is good, I need not add any description of my own.

2. *Scarites geryon* = *S. sulcatus* Oliv. (Ent. iii, 36, 1795, 7, t. 1, f. 11). A well-known insect, the habitat of which extends from Central India, through Assam, N. Burma, Indo-China, Formosa, and E. China to Korea. Chaudoir in his "Monographie des Scaritides" (Ann. Soc. Ent. Belg. 1880, 81) gives a note to this species, recording a small local race from Java; of this I have seen no examples.

3. *Brosicus (Percus) nepalensis* = *B. (Cephalotes) punctatus* Dej. (Spec. Gen. iii, 1828, 431). Dohrn (Stett. Ent. Zeit. 1879, 458) seems to have suspected the identity of these two species, and I have no doubt about it. Originally described from the Sinai Peninsula, the species ranges from Egypt, through Arabia and Mesopotamia, to N. India.

Bates (Scient. Results of Sec. Yark. Miss. 1891, Col. 4) also records ? Yarkand and China. In all probability *B. limbatus* Ball (Bull. Mosc. 1870, iv, 327), and *B. batesi* Sem. (Hor. Soc. Ent. Ross. xxv, 1891, 276 (note)) belong to this species. *B. davidianus* Fairm. (Ann. Soc. Ent. Belg. 1888, 7) is a well-marked local race found in Yunnan and at Hong-Kong.

4. *Calosoma indicum*. The type of this species cannot be traced, but I have little hesitation in identifying it with *C. orientale* Chaud. (Ann. Soc. Ent. Fr. 1869, 368).* Chaudoir's specimen came from Bengal, and Bates (Scient. Results of Sec. Yark. Miss. 1891, Col. 3) identifies examples from the Sind Valley and Kashmir with Chaudoir's species. My own records are all from N. India.

The species only differs from *C. chinense* Kirby (Trans. Linn. Soc. xii, 1818, 379) in its rather darker colour, and shorter elytra; both of them—along with various other described species—are little more than local forms of *C. maderae* F. (Syst. Ent. 1775, 237), of which the type is in the Banks Collection.

5. *Carabus wallichi*. The type agrees with Fairmaire's description of his *C. indicus* (Bull. Soc. Ent. Fr. 1889, 15), and I feel little doubt as to the identity of these two species. Bates (Compt. rend. Soc. Ent. Belg. 1891, 324) records a single specimen taken by Père Cardon at Konbir (Bengal). There are examples in the British Museum from Mungphu (British Sikkim), and Fairmaire's specimen came from Darjiling.

6. *Chlaenius nepalensis* = *C. (Diaphoropsophus) mellyi* Chaud. (Bull. Mosc. 1850, ii, 407). Dohrn (Stett. Ent. Zeit. 1879, 458) seems first to have recognised that Chaudoir's species was the same as Hope's, but with only a two-line description before him he naturally hesitated to substitute *nepalensis* for *mellyi*. Laferté described the species twice over under the names of *Barymorphus concinnus* and *B. planicornis* (Ann. Soc. Ent. Fr. 1851, 236), and Bates described it yet again from Formosa as *C. swinhoei* (Proc. Zool. Soc. 1866, 342). It is found all over India, in Ceylon, Burma, Siam, Cambodia, S.E. China, and Formosa.

There is a specimen at Oxford also indicated as the

* This was written some time ago. I now think Chaudoir's species different from Hope's. I accept the named specimen of *C. indicum* Hope in the British Museum as typical of that species.

type; I give the preference to the British Museum example only on the ground that the other Hardwicke types are at South Kensington.

7. *Colpodes hardwicki*. Chaudoir, in his Monograph of the genus (Ann. Soc. Ent. Fr. 1859, 359), mentions this species among others unknown to him, but in the "Révision" (Ann. Soc. Ent. Fr. 1878) he ignores it altogether. I have seen no examples of it other than the type, another specimen, labelled "India" in the British Museum, and a third taken quite recently at Gopaldhara, British Sikkim, by Mr. H. Stevens. The following is a description:—

Colpodes hardwicki, ♂. Length 16 mill. Width 5·5 mill.

Metepisterna twice as long as wide. Tibiae without external grooves. Tarsi without grooves.

Dark red, underside (including epipleurae of elytra) a little lighter; disk of thorax darker; head (except labrum, front of clypeus, and appendages) dark brown; elytra very dark brown with bright green reflections in the type, blue-green in the second example. Head smooth, a little contracted behind, with faint frontal foveae and a furrow along the upper margin of the eye, extending forwards to the base of the antennae; joints of antennae relatively long, 1 three times as long as 2 and a little longer than 3; eyes rather flat.

Prothorax one-third as wide again as head, widest before middle, strongly emarginate in front, truncate behind; front angles porrect but rounded, sides strongly rounded in front, then straight to hind angle, which is also rounded and obtuse; disk rather convex, explanate at sides, margins widely reflexed; a fairly deep fovea at each side of base near the angles, transverse impressions slight, median furrow faint, hardly reaching margins.

Elytra long, rather more than half as wide again as prothorax, nearly parallel, shoulders prominent, margin slightly sinuate behind, apex narrowly truncate, but without any spine at either angle of truncature; striae shallow, impunctate, intervals flat, the whole surface very smooth and shiny; interval 3 with three punctures, 1 at fifth from base, 2 just behind middle, 3 at a sixth from apex. Underside smooth, with some shallow depressions at sides of ventral surface. Legs slender; joint 4 of tarsi bilobed in all pairs of legs, the external lobe rather longer than the internal one in the intermediate and hind tarsi; joint 5 without setae beneath; front tarsi ♂ with three joints narrowly dilated, biserially squamose beneath.

The species is not unlike *C. buchmanii* Hope, but it is considerably larger, and rather narrower. Prothorax relatively wider and more rounded, front margin more strongly emarginate, angles more rounded, and sides more widely reflexed. The second puncture on the third elytral interval is placed a little further towards apex, and the suture is not mucronate at the apex. Both tibiae and tarsi are without grooves.

8. *Colpodes buchmanii* = *C. amoenus* Chaud. (Ann. Soc. Ent. Fr. 1859, 326). Mentioned by Chaudoir in his Monograph (l.c. 359) among the species unknown to him, and also referred to vaguely in the "Révision" (Ann. Soc. Ent. Fr. 1878, 367). Morawitz (Bull. Ac. St. Pet. v, 1863, 324) described the species again from Japan under the name of *C. splendens*.

It has a wide range from India and Ceylon to Japan. Bates also records it from Java, and this is quite probable, as I have an example taken by Dr. M. Cameron in the Malay Peninsula.

9. *Pterostichus (Omaseus) indicus*, ♂. } Length 14 mill.

10. *Pterostichus (Omaseus) aëratu*s, ♀. } Width 5·5 mill.

I take these together because I think they are probably the same species, but the type of *P. aëratu*s is in such poor condition that I cannot state this with certainty. There are only the two types in the British Museum Collection, nor have I seen any other examples elsewhere. In structure the two specimens agree, but in *aëratu*s the head, margins of prothorax and elytra, and first joint of the antennae are brassy, whereas in *indicu*s the whole insect is black, and, as it is a male, the surface is rather more shiny than in the female *aëratu*s. I have not found any references in later writers, so I give a description:—

Head smooth, with shallow frontal foveae, neck wide and rather tumid. Antennae reaching a little beyond the base of prothorax; palpi a little narrowed at apex and truncate. Prothorax one-third as wide again as head, transverse, width to length about 4 to 3 (in *aëratu*s the prothorax appears rather wider than in *indicu*s, but it is damaged and the wider appearance may be due to this cause); slightly emarginate in front and also (over the median portion of the base) behind; sides rounded in front, sinuate behind, reflexed margin well marked, a pore and seta at one-third from apex, and another at base near hind angle (this latter is only visible in *aëratu*s); front angles rounded, hind angles about right, very

slightly projecting; surface smooth, both transverse impressions well marked, a deep basal furrow on each side, between which and the side margin the surface is convex, median furrow fairly strong, reaching base but not apex.

Elytra moderately wide, one-third as wide again as prothorax, margin sinuate towards apex; striae deep, intervals smooth, convex, one puncture on third interval a little before middle (the condition of the surface does not allow me to see more, if they are present). Under surface smooth, shiny; prosternal process widened and rounded behind, furrowed in middle, not bordered; metepisterna hardly longer than wide; a setiferous puncture on each side of the last four ventral segments (♂), similar punctures (♀) but two on each side of last segment. Joint 5 of tarsi with setae beneath.

In size and general appearance rather like *P. cristatus* Duf. (*parumpunctatus* Germ.). Head wider; prothorax wider, more strongly rounded and more sinuate at sides, with sharper angles, side border thicker, surface more convex; elytra more rounded at shoulders, margin less reflexed, only one puncture (apparently) on third interval; last ventral segment (♂) without carina; dilated joints of tarsi (♂) not so wide.

11. *Pterostichus (Platisma) gagates*, ♂. Length 12·5 mill. Width 4·25 mill. Another solitary specimen.

Black; tarsi and apex of joints of palpi reddish. Head wide, smooth, with rather strong frontal impressions, faint wrinkles covering the anterior surface; neck tumid; antennae reaching just beyond base of thorax, joint 1 = 3.

Prothorax a little transverse (about 8×7), not quite half as wide again as head, emarginate in front and behind, widest a trifle before middle, sides regularly rounded without sinuation from front to hind angles; front angles rounded, hind angles obtuse, margins narrowly raised, with a setiferous pore at one-fourth from apex, and another near hind angle; surface smooth, moderately and uniformly convex, declivous towards front angles, transverse impressions obsolete, median line fine, reaching very nearly to base and apex, a short strong furrow on each side of base rather nearer margin than median line.

Elytra a little more than a third as wide again as prothorax, widened behind, the reflexed margin narrow with a faint sinuation near apex; striae deep, finely crenulate, intervals a little convex, third (apparently) with two punctures, one at about middle, the other about two-thirds from base. Underside smooth, ventral segments with a setiferous puncture on each side; prosternal process

not bordered; metepisterna a little longer than wide; joint 5 of tarsi with setae beneath. (Both hind legs are wanting.)

I know of no other species with which I can usefully compare this one. The hind angles of the prothorax are only obtuse and not rounded, or I should have put it into the *Steropus* group.

12. *Pristonychus* (*Sphodrus*) *brunneus*, ♀. Length 15 mill. Width 5·5 mill.

The simple claws and immarginate base of the prothorax put this species into the *Antisphodrus* group, which in Europe seems to be confined to caves and grottoes. The type is the only example I have seen.

Dull red, head (except labrum) dark brown, hind margins of ventral segments light red. Head and thorax moderately shiny, elytra opaque.

Head nearly smooth, frontal foveae shallow; only two supra-orbital setae on each side; eyes small and flat; antennae (up to joint 5—remainder wanting) stout, joint 3 hardly longer than 1.

Prothorax a third as wide again as head, as broad as long, a little emarginate in front, truncate behind; sides fairly widely reflexed—especially at hind angles, there is a puncture at the hind angle and several along the marginal channel but no setae are visible; front angles rounded but fairly sharp, hind angles right; disk a little convex, front transverse impression more marked than hind one, median line fine extending from the front impression to the base, a large shallow fovea on each side of the base, which is very faintly punctured.

Elytra a little more than half as wide again as prothorax, finely shagreened, oval, basal margin bisinuate forming at shoulder a sharp angle with side margin, which is reflexed, sinuate behind shoulder but not near apex; surface rather flat and a little explanate at sides; striae fairly deep, closely and minutely punctured; intervals flat, smooth. Underside smooth and shiny; metepisterna a little longer than wide; prosternal process bordered.

Broader than *A. schreibersi* Küst., head relatively shorter and wider, eyes larger, prothorax wider, both front and hind angles less prominent, surface less smooth and shiny.

(2) In the Coleopterist's Manual, Part II, published in 1838, a few new species of Oriental Carabidae are described. The types of two of these species are at Oxford,

and will be referred to later on; only one type is in the British Museum Collection.

Macrochilus bensoni (l.c. 166, t. 1, f. 5). There is a specimen at Oxford, also indicated as the type, but Hope at the end of his description says: "The above insect was originally described from Mr. Kirby's Cabinet; in his MSS. he has given it the name of *Macrocheilus bensoni*, which I retain." The British Museum example came from Kirby's collection, and bears the name in his handwriting; it is therefore no doubt the actual specimen referred to by Hope. I think it may fairly be regarded as the type, though the ambiguity of Hope's observations leaves room for doubt.

The species was redescribed by Guérin (Rev. Zool. 1840, 38) under the name of *Helluo quadrimaculatus*, and it was generally known by that name until recent years, when Hope's name was revived. Both names must now give place to *Macrochilus trimaculatus* Oliv. (See under OLIVIER.)

It is a common species, taken almost always at light in the evening, and has a wide range from India and Ceylon, through Burma, the Malay Peninsula, and Tonkin to Hong-Kong.

(3) In 1845 Hope wrote some "Descriptions of New Coleoptera from Canton sent to England by Dr. Cantor" (Trans. Ent. Soc. iv, 13-17). Twenty-two species were described, and I give some notes on the six species of Carabidae in the order in which they appear in Hope's paper.

1. **Harpalus sinicus**. Redescribed by Motchulsky (Et. Ent. 1860, 5) as *Harpalus rugicollis*, and by Morawitz (Bull. Ac. St. Pet. v, 1863, 327) as *Harpalus japonicus*; the species has been referred to by numerous authors in dealing with Chinese and Japanese Carabidae. Tchitcherin (Hor. Soc. Ent. Ross. xxxvii, 1906, 253) is—as far as I know—the only author who has correctly identified Hope's species, and he did so with hesitation. It belongs to the group formed by Des Gozis (Mitt. Schweiz. Ent. Ges. vi, 1882, 289) under the name of *Pardileus*.

The species is commonly and widely distributed over China, Japan, Korea, and Formosa; Mr. Vitalis de Salvaza has lately taken it in Tonkin. Bates (Scient. Results of Sec. Yark. Miss. 1891, Col. 7) records the species from

Murree in N. India, but I accept this for the present with reserve.

2. *Iridessus* (*Amara*) *orientalis* = *Iridessus* (*Harpalus*) *relucens* Bates (Trans. Ent. Soc. 1873, 264; *ibid.* 1883, 240). Tchitcherin deals with this genus several times (Abeille, xxix, 1897, 60; Hor. Soc. Ent. Ross. xxxiv, 1900, 363; *ibid.* xxxv, 1901, 245; *ibid.* xxxvii, 1906, 284). In his diagnosis Bates said that the penultimate joint of the labial palpi was bisetose, but Tchitcherin (Hor. Soc. Ent. Ross. xxxvii, 1906, 285, note (9)) says that, although at first he could distinguish only three setae, on dissection he discovered that there were actually four, two very short and fine, the other two longer and much more conspicuous. In Hope's specimen, which is very poor and defective, the labial palpi are present, but their condition does not allow of more than a superficial examination. Tchitcherin in a further note (l.c. N.B.) points out that Bates, in his description of the genus, contradicts himself regarding the form of the thorax; the Latin and not the English diagnosis should be treated as correct. In Hope's type the neck is covered with short irregular longitudinal wrinkles, but I look upon this as an individual variation.

The species is only known from China and Japan.

3. *Anoplogenius* (*Harpalus*) *cyanescens* = *A.* (*Megrammus*) *circumcinctus* Motch. (Et. Ent. 1857, 27). The genus *Anoplogenius* was published by Chaudoir (Bull. Mosc. 1852, i, 88) five years before Motchulsky (l.c. 26) published his genus *Megrammus*; Nietner's genus *Lepithrix* (Journ. As. Soc. Beng. 1857, ii, 151) seems to be identical. Schmidt-Goebel (Faun. Col. Birm. 1846, t. iii, f. 9) figures a species which he names *Loxoncus elevatus*, but there is no corresponding text; there is little doubt, however, that *Loxoncus* is identical with the other genera named, and, had Schmidt-Goebel published a description, his genus would have ranked in priority to Chaudoir's. For the species Hope's name must stand.

It is common in China, Japan, and Korea.

4. *Stenolophus* (*Harpalus*) *difficilis* = *S.* *chalcus* Bates (Trans. Ent. Soc. 1873, 270). The solitary example was unnamed, and I attached little importance to it. Fortunately Mr. Arrow recognised the locality-label, and, with this as a guide, I was able to identify the specimen as being almost certainly Hope's type of *Harpalus difficilis*, for which I had long sought in vain. Tchitcherin (Hor. Soc. Ent. TRANS. ENT. SOC. LOND. 1919.—PARTS I, II. (JULY) N

Ross. xxxv, 1901, 246 note (77)) considered Bates' *S. chalceus* identical with Redtenbacher's *S. iridicolor* (Reis. Novar. Zool. ii, Col. 1867, 16). The species, which must bear the name of *S. difficilis*, occurs in China and Japan. Mr. Lesne (Miss. Pavie 1904, Col. 76) records it from Siam.

5. **Stenolophus (Harpalus) trechoides.** An immature example, which I think is to be identified with the very common and very variable *S. smaragdulus* Fab. (Suppl. Ent. Syst. 1798, 60). I consider *S. quinquepustulatus* Wied. (Zool. Mag. ii, 1, 1823, 58) and *S. cyanellus*, Bates (Ann. Mus. Civ. Gen. 1889, 103) to be respectively 5-spotted and spotless forms of this species, which is extremely common throughout the whole of S.E. Asia, including the Malay Islands and New Guinea, and extends southwards into Queensland.

6. **Somotrichus (Coptodera) bicinctus.** This species has had a curious history. Fabricius (Mant. Ins. i, 1787, 198) described a *Carabus elevatus*, the type of which is now in the Hunterian Collection at Glasgow. This is an American insect, now placed in the genus *Scaphinotus*. A little later (Ent. Syst. i, 1792, 162) he described quite another species under the same name of *Carabus elevatus*, and it is this description which was reproduced subsequently (Syst. Eleuth. i, 1801, 204). The locality of this second species is indicated as Paris, and Hope's *Coptodera bicincta* from Canton is identical with it. Dejean (Spec. Gen. v, 1831, 389) next described it from Mauritius under the name of *Lebia unifasciata*, and two years later Brullé (Silb. Rev. ii, 1834, 108) identified this with Fabricius' species. In 1845 came Hope's *Coptodera bicincta* from Canton, and a year later the species is recorded by Schmidt-Goebel (Faun. Col. Birm. 1846, 43) from Calcutta. Three years later Fairmaire (Ann. Soc. Ent. Fr. 1849, 419) redescribed it from Marseilles as *Coptodera massiliensis*. Mr. Bedel (Faune Seine, i, 1879, 114 note (1)) recorded it from Rouen and referred it to the genus *Somoplatus*; later (Cat. rais. Col. N. Afr. 1905, 243 note (3), and 244) he tells us it has also been taken at Algiers.

The genus *Somotrichus* was formed for the species by Seidlitz (Faun. Balt. Ed. ii, 1888, 7), and, in view of Fabricius' double use of *Carabus elevatus*, the species should be known as *Somotrichus unifasciatus* Dej. As will have been inferred from the above remarks, it is more or less a Cosmopolitan species, being carried from port to port by vessels trading in ground-nuts, etc. My records, in addition to the localities

already mentioned, include Ceylon, Hong-Kong, Batchian, and Celebes. Mr. Bedel also mentions, though not on his own authority, the French ports of Caen, Le Havre, and Bordeaux, Tarsus (in Asia Minor), and Guadeloupe.

But this does not complete the tale. Chaudoir had in his collection a specimen of a *Coptodera* received from Dohrn and taken by Bowering at Hong-Kong. Undeterred by the fact that his specimen was twice as long as Hope's, he seems to have persuaded himself that the two were identical, which was far from being the case. The dimensions given by Hope are "Long. lin. 2, lat. lin. $\frac{1}{2}$," and by Chaudoir "Long. 8 m.; larg. $8\frac{3}{4}$ m." (Mémoire sur les Coptodérides, Ann. Soc. Ent. Belg. xii, 1869, 187). For Chaudoir's species I propose the name of *Coptodera chaudiroides*. I may add that its alleged width is exaggerated.

WESTWOOD.

Westwood does not seem to have been in the habit of writing the word "type" on the labels of the specimens he described as new. Of the three examples of Oriental Carabidae so described, the types of two should be in the British Museum, but I have been able to identify only one of them.

1. *Clivina castanea* (Proc. Zool. Soc. 1837, 128). A small and immature specimen, as I think, of the species described by Putzeys in his "Postscriptum ad Cliv. Mon." (Mém. Liège xviii, 1863, 60) under the name of *C. parryi*. When writing his "Révision générale des Clivinides" (Ann. Soc. Ent. Belg. x, 1867), Putzeys tells us (p. 131 note (1)) that he sent a "type" of *C. parryi* to Westwood, who compared it with his own species, and reported some slight differences, which seem to have been sufficient in Putzeys' eyes to justify him in keeping the species distinct. No one seems to have examined Westwood's type since, and Putzeys' name has been the one in common use. It may be mentioned that the species was figured in Schmidt-Goebel's work (Faun. Col. Birm. 1846, t. 3, f. 4) under the name of *Eupalamus clivinoides*, but no description appeared. Bates thought that Putzeys' *C. lata* and *C. agona* (both "Révision," p. 131) were either identical with or only slight varieties of *C. parryi* (vide Trans. Ent. Soc. 1876, 3, and Ann. Soc. Ent. Fr. 1889, 262). In regard to the former I have no doubt he was right, but *C. agona*, to which I shall refer later on, I consider a distinct species. The

type of *C. castanea* came from Manilla. The species ranges over the whole of S.E. Asia, including Japan in the North, and the Malay Archipelago, with New Guinea, in the South.

2. *Oxylobus* (*Scarites*) *sculptilis* (Arc. Ent. i, 1843, 88, t. 23, f. 1). This Indian type had no head when described, it was said to come from Van Diemen's Land, and it is now lost. It ought to be either in the Linnaean Society's collection, or in that of the British Museum, but I have searched both in vain; nor has it turned up at Oxford. It is evidently an Indian species of the genus *Oxylobus*, but I doubt whether it will ever be possible, unless the type is found, to identify it with certainty. See also remarks under *O. designans* Walk.

3. *Helluodes taprobanae* (Trans. Ent. Soc. iv, 1847, 279, t. xxi, fig. B). I mention this well-known species here, as I am not likely to have any better opportunity. It is figured by Lacordaire (Gen. Col. 1854, Atl. t. 7, f. 1), but under the erroneous name of *Physocrotaphus ceylonicus* Parry. The species is confined to Ceylon. Westwood says that the specimen from which his description was drawn up was in Melly's Collection, now in the Geneva Museum. I am informed by Dr. J. Carl that there is such a specimen now at Geneva, and, although it is not so marked, I have little doubt that it is the type of the genus and species.

ADAM WHITE.

Macrochilus (*Acanthogenius*) *astericus* (Ann. and Mag. of Nat. Hist. xiv, 1844, 422). A well-known Eastern species, which was redescribed by Redtenbacher (Reis. Novar. Zool. ii, Col. 1867, 4, t. 2, f. 3) under the name of *Planetes crucifer*. See also Chaudoir (Rev. et Mag. Zool. 1872, 172) and Bates (Ann. Mus. Civ. Gen. 1892, 389). All the specimens I have seen were, like the type, from Hong-Kong. Bates gives Bhamo and Assam also as localities. There is an example in the British Museum labelled "Malabar," but this is almost certainly an error.

TATUM

Two types of Eastern Carabidae described by this author are in the British Museum, both belonging to the genus *Carabus*, and both belonging also to the group named

Imaïbius by Bates (Proc. Zool. Soc. 1889, 211), and subsequently *Tropidocarabus* by Kraatz (Deutsch. Ent. Zeit. 1895, 366).

1. *Carabus lithariophorus* (Ann. and Mag. of Nat. Hist. xx, 1847, 14) = *Carabus casehmirensis* Koll. and Redt. (Hügel's Kaschmir, iv, 2, 1844, 499, t. 23, f. 4). Bates (Scient. Results of Sec. Yark. Miss. Col. 1891, 3) records a specimen taken at Murree. Dr. Roeschke (Deutsch. Ent. Zeit. 1907, 541) gives a very full account of the various species in the *Imaïbius* group, and deals with *C. casehmirensis* on pp. 544 and 549.

The species is spread over the N.W. Himalayas at from 5000–7500 ft., and is not uncommon.

2. *Carabus boysi* (Ann. and Mag. of Nat. Hist. 2, viii, 1851, 51). Recorded by Bates (Entom. xxiv, 1891, Suppl. 8) from Kulu. Kraatz (Deutsch. Ent. Zeit. 1895, 366) misidentified the species with *C. wallichii* Hope (referred to elsewhere). Dr. Roeschke has written fully on it (l.c. 546 and 553).

Like the previous species, this one is fairly common in the N.W. Himalayas, and at rather higher altitudes. Dr. Roeschke gives 6000–10,000 ft., and I have records from 7000 ft. and 9000 ft.

WOLLASTON.

Among the numerous types of Carabidae from Madeira, Cape Verde Is., etc., there is one which extends its habitat to the Oriental region, and I therefore include it here.

Perigona (*Trechicus*) *fimicola* = *Perigona* (*Bembidium*) *nigriceps* Dej. This species in one or other of its manifold forms has an almost world-wide distribution. The synonymy seems to be as under:—

Bembidium nigriceps Dej. (Spec. Gen. v, 1831, 44). N. America.

Trechicus umbripennis Lec. (Trans. Am. Phil. Soc. x, 1853, 386). United States.

Trechicus fimicola Woll. (Ins. Mad. 1854, 63). Cape Verde Is.

Trechus jansonianus Woll. (Ann. and Mag. of Nat. Hist. 3, i, 1858, 19). Madeira.

Nestra atriceps Fairm. (Ann. Soc. Ent. Fr. 1869, 184). Madagascar.

- Trechicus japonicus* Bates (Trans. Ent. Soc. 1873, 281).
Japan.
- Perigona beccarii* Putz. (Ann. Mus. Civ. Gen. 1875, 732).
Sarawak.
- Perigona discalis* Chaud. (Rev. et Mag. Zool. 1876, 553).
E. Africa.
- Perigona suffusa* Bates (Ann. and Mag. of Nat. Hist. 5, xvii,
1886, 151). Ceylon.
- Extromus pusillus* Pér. (Descr. Cat. S. Afr. Ins. ii, 1896,
587). S. Africa.
- Perigona australica* Sloane (Proc. Linn. Soc. N.S.W. 1903,
635). Australia.

JAMES THOMSON.

Three types of *Catascopus* are at South Kensington.

1. *Catascopus* (*Pericalus*) *presidens* (Arch. Ent. i, 1857, 281). Chaudoir (Berl. Ent. Zeit. 1861, 122) expressed the tentative opinion that this species might be a variety of the same author's *C. cupripennis*: I can find no further references. It is actually identical with Chaudoir's *C. costulatus* (Rev. et Mag. Zool. 1862, 489), and Thomson's name must replace Chaudoir's. In the following year Saunders (Trans. Ent. Soc. 1863, 459, t. 17, f. 1) described it again under the name of *C. splendidus*. The species has been found in the Malay Peninsula, Borneo (Sarawak), and Celebes.

2. *Catascopus* (*Pericalus*) *cupripennis* (l.c. 282). A well-known species, about which no doubt exists, so that I need not refer to it further. The type came from the Malay Peninsula (Singapore), and I have records also from Penang, Malacca, Perak, Borneo (Sarawak, Labuan, and Pontianak), and Celebes.

3. *Catascopus* (*Pericalus*) *celebensis* (l.c. 282). Identified by Chaudoir (Berl. Ent. Zeit. 1861, 120), I think quite rightly, as a form of *C. (Carabus) elegans* Fab. (Syst. Eleuth. i, 1801, 184), described a few months earlier by Weber (Obs. Ent. 1801, 45) as *C. (Elaphrus) elegans*. It differs from the type form in the colour of the elytra, which are a bright reddish-purple. The type form extends all over the Malay Archipelago as far as Northern Australia. On the mainland of Asia it ranges from Indo-China on the East to Bengal on the West, but I have not seen specimens from any other part of India, or from China.

F. WALKER.

All Walker's Ceylonese types of Oriental Carabidae are in the British Museum Collection, and the descriptions will be found in the Annals and Magazine of Nat. Hist. 3rd Series, vol. ii, 1858, pp. 202-204, and vol. iii, 1859, pp. 51-52. It would serve no useful purpose to pretend that Walker's descriptions have any scientific value, and the genera to which he attributes his species are almost invariably wide of the mark. When Bates—also in the Annals and Magazine (5, xvii, 1886)—reviewed the Carabidae taken by Mr. Geo. Lewis in Ceylon, he had to recognise Walker's work; this evidently went against the grain, and the observations which he lets fall about it here and there cannot be described as flattering. However, the types are there, and it only remains to identify or re-describe them. Bates has already done this to a great extent; but he frequently introduces his own names to take the place of Walker's; this, of course, is inadmissible, and I shall indicate wherever changes have to be made. As I shall have to quote rather frequently from Bates' paper in the Annals and Magazine, I need not do more than give the page; any other quotation from his works will have a fuller reference. I shall take Walker's species in the order in which he mentions them, dealing as briefly as possible with those already elucidated by Bates.

1. *Miscelus (Cymindis) rufiventris* = *M. ceylonicus* Chaud. (Berl. Ent. Zeit. 1861, 125). Chaudoir's description is no better than Walker's, and is later. Bates merely records the synonymy (p. 202). I am inclined to think that *M. javanus* Klug (Jahrb. 1834, 82, t. 1, f. 9) is a red-spotted form of the same species, and I should not be surprised to find that *M. unicolor* Putz. (Mém. Liège, ii, 1845, 375) was the same thing. I hope I may later on be able to see the types, and settle the question.

I have seen numerous examples from Ceylon (Colombo), Madras (Nilgiri Hills), and Bombay (Kanara); also solitary specimens labelled Kashmir, and Hong-Kong. Bates (Ann. Soc. Ent. Fr. 1889, 283) records it from Indo-China.

The existing descriptions are so very slender that I give a more detailed one.

Miscelus rufiventris. Length 8.5 mill. Width 3 mill.

Pitch black, labrum, palpi, joint 1 of antennae, legs, sterna, and

ventral surface reddish (in the type), or more generally pitch-brown. The marginal and other setae are nearly all extraordinarily long.

Head small, convex, shiny, smooth—except for a few minute punctures here and there, frontal foveae faint, clypeal suture finely marked and ending in a large shallow pore on each side, from which a very fine line runs towards the base of the antenna, a short, fine, longitudinal impressed line in middle of front, clypeus smooth, strongly emarginate, a seta near each front angle, labrum porrect, as long as wide, rounded in front and 6-setose; eyes rather flat, with one supraorbital seta, neck slightly constricted, antennae reaching a little beyond base of prothorax, joints equal, except 2 which is about two-thirds as long as the others, pubescent from middle of joint 3.

Prothorax cordiform, a little wider than head, strongly emarginate in front, base truncate, widest at a third from apex, sides rounded in front, margin reflexed, widely so behind, a seta at a third from apex, another at hind angle, front angles porrect, a little rounded, hind angles rather obtuse; front transverse impression weak, hind one deep, median line well marked, deeper behind, reaching base but not front margin, basal foveae deep; surface less shining than that of head, smooth but with very fine transverse wrinkles, and a faint rounded impression on each side of disk, midway between median line and margin.

Elytra elongate, rather flat, a third as wide again as prothorax, shoulders well marked, apex truncate with outer angle rounded, margin narrow, a little wider in middle, slightly sinuate at a third from base; striae finely crenulate, a scutellary striole between 1 and suture, 3 joining 4 and 5 joining 6 a little before apex, 7 carried round nearly to apex; intervals slightly convex, 5 and 7 narrower and more convex towards base, 3 with a setiferous pore close to apex, 9 with a series of large setiferous pores, viz. half a dozen at shoulder, one or two at a fourth from apex, three or four at the external angle of the truncature, and one or two near apex.

Underside smooth and shiny, head with half a dozen long erect setae, prosternal process not bordered, covered with minute erect setae, metepisterna long and narrow, last ventral segment minutely and sparsely punctate, with two setae on each side. Front tarsal joints short, hind ones longer, joint 1 rather shorter than 5, which very nearly equals 2 + 3 + 4, 5 with a few setae at sides, claws simple. In the ♂ joint 1 of front tarsi = 2 + 3, the first three joints a little dilated, and biserially clothed beneath with white filamentous scales.

2. *Dolichoctis (Dromius) marginifer*. A unique specimen,

which Bates described very briefly (p. 210), differentiating it from *D. quadriplagiatus* Motch. (Bull. Mosc. 1861, i, 106, t. 9, f. 4). After examining a number of specimens, and noticing considerable differences in the form of the thorax and the size of the shoulder spots, I consider that *D. marginifer* is only a small dark example of Motchulsky's species. Walker's name is the earlier one. As will be seen later on, the species was again described by Walker as *Colpodes marginicollis*.

3. *Colpodes (Lebia) bipars*. Redescribed by Bates (p. 147) under the name of *Colpodes lamprides*. I think Bates must have recognised the identity of the two species, but he did not like Walker's description. In this case Walker's name must stand. This is apparently the species which Chaudoir (Révision des Colpodes, Ann. Soc. Ent. Fr. 1878, 375) mistook for Nietner's *Euplynes dohrni*. It seems to be confined to Ceylon.

4. *Catascopus reductus*. Another unique specimen. Bates gives a short description (p. 210), and points out that the species is quite different from that which Chaudoir mistook for *C. reductus* (Berl. Ent. Zeit. 1861, 117). I think the latter will prove to be identical with Bates' *C. cingalensis* (p. 203). Walker's species requires some further description.

Catascopus reductus. Length 10 mill. Width 3.75 mill.

Black, with a brassy tinge on the elytra, head and thorax dark brassy green; antennae, mouth-parts, and legs brown-black.

Head shiny, faintly punctate, a large shallow depression on middle of front, two ocular ridges on each side, the inner one carried forward beyond the base of the clypeus and ending in a large pore; clypeus finely and closely punctate, a depression in the middle near base, a seta at each anterior angle, suture fine, front a little emarginate; eyes moderately prominent, mandibles short, strong, hooked at tip, antennae slender, reaching a little beyond base of prothorax.

Prothorax as wide as head, widest at a third from apex, a little emarginate in front, bisinuate at base, sides, base, and sides of front margin bordered; sides very gently rounded in front, with a long sinuate to hind angles, which are reflexed, right, and a little projecting, front angles not much rounded, a seta on the border just before middle and another on hind angle; front transverse impression shallow, hind one deep, median line well marked, deeper at extremities—especially behind, basal foveae deep; surface shiny, very finely punctate, with a little faint cross-striation.

Elytra rather short, half as wide again as prothorax, moderately convex, square at shoulder, dentate at outer angle of apical truncature, and close to apex, with a small re-entrant angle at suture, sides depressed before middle, with a corresponding sinuation of the margin; punctate-striate, a scutellary striole between 1 and suture, intervals smooth, slightly convex, 7 carinate at base, 3 with three punctures, one near base, one about middle, and one at a fourth from apex.

Underside smooth, ventral surface finely and sparsely punctate; metapisterna elongate smooth; two setae on each side of last ventral segment.

In form *C. reductus* resembles *C. fuscoaeneus* Chaud., but the general colour is darker and there is no coppery hue. The head is less strongly punctate, the ocular ridges less marked and the eyes less prominent, thorax wider, elytral intervals flatter—especially 5, and apex of each elytron bidentate.

5. *Coptolobus* (*Scarites*) *obliterans*. } Both = *C. glabriculus*
 6. *Coptolobus* (*Scarites*) *subsignans*. } Chaud. (Bull. Mosc. 1857, iii, 60), an older name. Bates refers to the synonymy (p. 72).

7. *Oxylobus* (*Scarites*) *designans*. Chaudoir, in his "Monographie des Scaritides" (Ann. Soc. Ent. Belg. xxii, 1879, 133) identifies the species with *O. (Scarites) sculptilis* West., for further remarks on which see under WESTWOOD. Bates (p. 210) did not agree with Chaudoir's opinion, nor did he consider Walker's species the same as Dejean's *O. (Scarites) lateralis* (Spec. Gen. i, 1825, 400), in which I agree. In these circumstances I give a description of the type.

***Oxylobus designans*.** Length 18.5 mill. Width 5.75 mill.

Black, shiny, palpi reddish.

Head (excl. mandibles) transverse, flat, vertex smooth, two small depressed areas on each side of middle of front, frontal impressions in the forms of elongate narrow furrows extending backwards to neck and forwards to clypeal suture, several short ridges with one or two punctures about level with hind margin of eyes; clypeus longitudinally striate at extremities, almost straight in front, labrum trilobed, the median lobe longest, neck not narrowed behind, eyes small, fairly prominent, mandibles as long as head, sharp but not hooked, finely striate, internal ridge a little sinuate in middle, each with three strong teeth, antennae short, moniliform, paragenae without tooth or emargination.

Prothorax convex, a third as wide again as head, a little wider than long, widest at a third from base, gradually and very slightly narrowing to front angles, a little emarginate in front, side margin strongly bordered, the border turning the front angle and meeting the end of the transverse impression without forming any fovea; two setae, close together, inside the side border at about a fifth from apex, another on the border at hind angle, which is completely rounded and without tooth; front transverse impression and median line both fine, hind transverse impression and basal foveae wanting; surface smooth, except for a few transverse wrinkles along side margins and median line.

Elytra very slightly wider than prothorax, oval, convex, base aciculate; 7 striae (including marginal one), not reaching base, impunctate on disk, widening out and strongly punctured near apex, 6 ending long before apex, no scutellary striole; intervals smooth, flat, 6 narrower and more convex, joining sutural interval, 7 very narrow, carinate, all intervals subcarinate near apex, marginal interval with an uninterrupted series of small umbilicate punctures.

Underside shiny, prosternum a little aciculate, ventral segments with an irregular transverse row of very large punctures, which are more numerous and very irregular on the last one; this has a large (presumably setiferous) pore at each side on the margin; epipleurae very wide at base, smooth; outer margin of abdominal tergites finely transversely strigose. Front tibiae with three digitations (including apical one).

Rather larger than *O. lateralis* Dej., which has a much smoother head, with frontal furrows not carried so far back, ending on a level with hind margin of eye, prothorax quite smooth, with one seta and pore at a fourth from apex, actually on border (showing a distinct nick in the marginal outline), striae punctured throughout, though very finely on disk, intervals 4 and 5 a good deal narrower than 1-3, and becoming carinate further from apex; epipleurae of elytra punctured on middle, but not at base or apex, ventral surface less punctured, last segment with only 6 or 8 irregular punctures.

There is a second example of *O. designans*, also from Ceylon, in the British Museum Collection.

8. *Clivina recta* = *C. indica* Putz. (Mon. des *Clivina* et genres voisins, Mém. Liège, ii, 1846, 585 (67)). Bates expresses no opinion. Putzeys' type is at Oxford and will be referred to later on.

9. *Morio trogositoides*. } Bates (p. 211) gives his views
 10. *Morio cucujoides*. } regarding these two species, which
 he evidently considered different, and which he did not
 identify with any other described species. He was also
 uncertain whether the example, referred doubtfully by
 Chaudoir in his "Essai monographique sur les Morionides"
 (Bull. Mosc. 1880, ii, 342) to Walker's *M. cucujoides*, was
 in fact that species. Earlier in his paper (p. 143) Bates
 identified some specimens taken by Mr. Lewis as *M.*
cordicollis Chaud. (Mon. 343). I am unable to express any
 opinion regarding Chaudoir's *M. cucujoides*, but I consider
 that *M. trogositoides* Walk. = *M. cucujoides* Walk. = *M.*
cordicollis Chaud. The name *trogositoides* is preoccupied,
 and *cordicollis* was only described in 1880. I think the
 species should bear the name *M. cucujoides* Walk.

It is widely spread through India, and I have seen
 examples from Siam (Renong), Andaman Is., Philippine Is.,
 Java, Gilolo, and Morty I. Mr. Vitalis de Salvaza has
 lately taken many specimens in Tonkin and Laos.

11. *Celaenephes* (? *Leistus*) *linearis* = *C. parallelus* Schm.-
 Goeb. (Faun. Col. Birm. 1846, 78, t. 2, f. 5). Bates (p. 211)
 considered the reference of this species to the genus
Leistus as "one of Walker's greatest feats of random
 identification."

Bates tells us that this is a widely distributed Indian
 and Australasian species, but I have not myself seen
 examples from or found any record of examples taken in
 either India or Australia. I have seen specimens from
 Ceylon, Burma, and the Malay Peninsula; also many
 examples from the Malay Archipelago, including the
 Moluccas and New Guinea. There are records also from
 Siam, Indo-China, and New Caledonia.

12. *Dioryche* (*Cardiaderus*) *scita* = *D. (Selenophorus) colom-*
bensis Nietn. Bates (p. 76) gives some details and
 identifies Walker's species with Nietner's. It is a common
 one in India and Ceylon, but does not seem to extend
 further. I have, however, seen examples from the
 Maldive Is.

13. *Anchomenus illocatus*. Bates adopted Walker's name
 here (p. 146) and redescribed the species. Walker described
 it again on the next page under the name of *Argutor degener*.
 It appears to be confined to Ceylon.

14. *Abacetus* (*Agonum*) *placidulus*. Bates does not
 mention either this species or *Selenophorus infixus* described

on the succeeding page. These are identical, and the species was redescribed by Bates (p. 144) as *Abacetus carinifrons*. It should be known as *Abacetus placidulus* Walk.

I have records from Ceylon only, except for a solitary specimen in the British Museum Collection labelled "Pondichery."

15. *Mochtherus* (*Panagaeus*) *retractus* = *M. tetraspilotus* Macl.

I have already given some notes on this under MACLEAY.

16. *Orthogonius* (*Maraga*) *planigerus*. Walker's description of his genus is quite inaccurate. Bates does not deal with either the genus or species. Chaudoir in his "Essai monographique sur les Orthogoniens" (Ann. Soc. Ent. Belg. xiv, 1871, 121) discusses both, but naturally could make little of them. C. O. Waterhouse (Ent. Month. Mag. x, 1873, 17) pointed out some of Walker's errors, and also redescribed the species from the type. It is evidently very near *O. parvus* Chaud. (Mon. 112) from the Nilgiri Hills, but I do not consider the two species identical. I have not seen any other example.

17. *Anchomenus* (*Argutor*) *degener* = *A. illocatus* Walk. and Bates, as already mentioned.

18. *Abacetus* (*Argutor*) *relinquens* = *A. (Argutor) antiquus* Dej. (Spec. Gen. iii, 1828, 246). Chaudoir in his "Essai monographique sur le genre Abacetus" (Bull. Mosc. 1869, ii, 400) merely mentions the species, but Bates (p. 144) identifies it not only with *A. antiquus*, but also with *A. (Distrigus) submetallicus* Nietn. (Ann. and Mag. of Nat. Hist. 3, ii, 1858, 177). Chaudoir (Mon. 391) had already identified Dejean's and Nietner's species.

It is not uncommon in Central and Southern India, as well as in Ceylon, but I have seen no specimens from N. India. Chaudoir gives Burma also as a locality.

19. *Stenolophus* (*Harpalus*) *stolidus* = *S. (Carabus) smaragdulus* Fab. (Suppl. Ent. Syst. 1798, 60). Bates (p. 80) could only suggest a "bluer colour and somewhat more robust form" to differentiate this species from *S. 5-pustulatus* Wied. (Zool. Mag. ii, 1, 1823, 58). See also remarks under *S. trechoides* Hope.

20. *Siopelus* (*Curtonotus*) *compositus* = *S. ferreus* Bates (p. 76). Bates evidently suspected the identity of the two species (p. 211), and I feel no doubt about it. The species should therefore be known as *Siopelus compositus* Walk.

In addition to the type, I have seen only the examples taken by Mr. Lewis in Ceylon.

21. *Abacetus* (*Selenophorus*) *infixus* = *A.* (*Agonum*) *placidulus* Walk. = *A. carinifrons* Bates. See above under *A. placidulus*.

22. *Acupalpus derogatus*. Bates (p. 80) accepts Walker's name, but he gives such a short description that I propose to amplify it. The species is apparently confined to Ceylon. Walker's type is a very poor specimen.

Acupalpus derogatus. Length 3.5 mill. Width 1.25 mill.

Black, slightly iridescent; mouth-parts, antennae, legs, margin of prothorax, and margin and suture of elytra reddish.

Head smooth, wide, convex, frontal foveae short, deep, curved towards eye behind, eyes flat, neck not narrowed.

Prothorax rather wider than head, widest at a third from apex, a little emarginate in front, truncate behind, sides rounded in front, then straight to hind angles, which are obtuse; transverse impressions and median line all rather faint, basal foveae deep, joining marginal channel at sides, surface smooth, shiny.

Elytra shiny, parallel, shoulders well marked, obliquely truncate at apex, striae fairly deep, impunctate, a short striole between 1 and 2, intervals a little convex, 3 with a pore rather behind middle, marginal series interrupted.

The black colour differentiates this species from its Eastern allies. It is rather similar in form to *A. meridianus* Dej., but smaller, thorax more narrowed behind, angles more rounded, basal area without punctures, elytra a little shorter and more strongly striate, the pore on interval 3 further forward, and distinguished at once by the absence of the basal yellow fascia.

23. *Tachyta* (*Acupalpus*) *extrema* = *T.* (*Tachys*) *umbrosa* Motch. (Bull. Mosc. 1851, iv, 507). As Bates points out (p. 151) "only a fragment of Walker's type in the British Museum remains for comparison," but he considered the two species as being probably identical, and I quite agree with him. Schaum described it again (Berl. Ent. Zeit. 1863, 88) under the name of *T. nietneri*.

It occurs all over S.E. Asia and extends to the Malay Archipelago and New Guinea, but is replaced in Australia by *T.* (*Bembidium*) *brunnipennis* Macl., jun. (Trans. Ent. Soc. N.S.W. 1871, ii, 118), and in Japan by the palaeartic *T.* (*Bembidium*) *nana* Gylh. (Ins. Suec, ii, 1810, 30).

24. **Tachys (Bembidium) finitimus.** A single specimen, and also a very poor one. Bates gives some account of it, but his description is so short that I give some further particulars.

Tachys finitimus. Length (approx.) 2.5 mill. Width (approx.) 1.5 mill.

Dark brown, elytra reddish, but darker along suture and at margins, labrum, joint 1 and base of joint 2 of antennae (rest darker), and legs testaceous. (The elytra are partially dissociated from the body, and, being translucent, probably appear lighter in colour than they really are).

Head smooth, not contracted behind, eyes moderately prominent, labrum slightly emarginate, frontal grooves short but fairly deep, bounded by an external ridge, as in *T. haemorrhoidalis* Dej.

Prothorax transverse, widest rather before middle, wider than head, front emarginate, base slightly arcuate; sides rounded, sinuate just before hind angles, narrowly bordered, a seta at two-fifths from apex and another at hind angle, front angles quite rounded, hind angles right; front transverse stria obsolete, hind one well marked, punctured, median stria very faint, not ending in a puncture behind, basal foveae bounded outwardly by a fine carina.

Elytra half as wide again as prothorax, with two sutural impressed striae, the front discal pore and seta at a third from base, hind one at a little more than a third from apex, the inner stria extends in each direction rather beyond the pores, eighth stria entire, with three or four setiferous pores along its course.

Very close to Bates' *T. peryphinus* (p. 153), but distinguishable by the (apparently) reddish elytra, only $1\frac{1}{2}$ (instead of $3\frac{1}{2}$) basal joints of the antennae testaceous, and the fact that the median line does not terminate in a fovea at the base.

25. **Tetragonica (Dromius) repandens.** Another unique specimen. Bates says only a few words about it (p. 210), so I give below a rather longer description.

Tetragonica repandens. Length 3.75 mill. Width 1.25 mill.

Brown, disk of elytra (except suture) light brown; palpi and labrum testaceous; border of prothorax and head pitch black, latter a little lighter on vertex; upper surface finely shagreened.

Head smooth, shiny, convex, frontal foveae shallow, bounded externally by a short ridge running from middle of eye to base of antennae, clypeus with a seta on each side, labrum slightly

emarginate, eyes moderately prominent, antennae reaching rather beyond middle of body.

Prothorax a shade narrower than head (with eyes), as long as wide, widest at a third from apex, a little convex, truncate at extremities, but sides of base turn forward to meet hind angles; sides narrowly bordered, gently rounded in front, widely but only slightly sinuate before hind angles, which are obtuse, with a pore and seta just before the angle, a second pore visible at each side on the border at a fifth from apex, but the setae have disappeared; front angles rounded, transverse impressions, median line, and basal foveae all moderately deep, the last named joining marginal channel; surface smooth, shiny, with faint transverse wrinkles.

Elytra nearly three times as long, and a little more than twice as wide as prothorax, flat on disk, but rather convex at margins, which are explanate behind, shoulders strongly, sides gently rounded, apex obliquely truncate, outer angle of truncature rounded, sutural angle rather sharp; striae fairly deep, with large very faint shallow punctures, no scutellary striole, intervals gently convex, 3 with two large punctures occupying the whole width of the interval, one at a third from base, the other at a sixth from apex, a third very small puncture at extreme apex of interval adjoining stria 2, some large setiferous punctures along margin. Fourth joint of tarsi strongly bilobed; claws pectinate.

I put this species in the genus *Tetragonica* with some hesitation. Walker's specimen is unique, and more material is required for dissection. The prothorax is more convex and much more narrowed behind than in the other described species of the genus, the elytra are shorter, with more rounded shoulders, and more squarely truncate apex.

26. *Dolichoetis (Colpodes) marginicollis* = *D. (Cyrtopterus) quadriplagiatus* Motch. (Bull. Mosc. 1861, i, 106, t. 9, f. 4). As already mentioned, both species are identical with Walker's *D. marginifer*, and this is the name which should be used.

The species is apparently confined to Ceylon, though Bates (Compt. rend. Soc. Ent. Belg. 1891, 339) mentions a solitary specimen from Tetara, differing, however, in some respects from the typical form.

27. *Diplochila (Platysma) retinens*. The genus was identified by Bates (p. 212) with Chaudoir's *Eccoptogenius* (Bull. Mosc. 1852, i, 72), and he considered the species closely allied to, if not identical with *E. moestus* Chaud.

(l.c. 74). I do not share this opinion, and identify Walker's species with *D. (Rhembus) distinguenda* Laf. (Ann. Soc. Ent. Fr. 1851, 278). Bates himself later on not only described the species, but did so twice over—though each time under the same name of *Rhembus rectificatus* (Compt. rend. Soc. Ent. Belg. 1891, 329, and Ann. Mus. Civ. Gen. 1892, 325).

The species is common throughout India and Burma, but its habitat does not seem to extend further.

28. *Gnathaphanus (Harpalus) dispellens* = *G. (Harpalus) punctilabris* Macl., referred to elsewhere.

29. *Lamprophonus* (? *Drimostoma*) *marginalis*. Bates says (p. 212): "A Harpalid, with upper surface finely punctured and frontal furrows as in *Bradycellus* and allies. The type being female, its generic position cannot be ascertained." The species actually belongs to Bates' own genus *Lamprophonus*, described three years later (Ann. Mus. Civ. Gen. 1889, 101), and I consider the type to be a male. There is a further example from Ceylon in the British Museum Collection, and one in my own collection, but like the type they are old. I have also a specimen, only partly developed, from the Nilgiri Hills.

Lamprophonus marginalis, ♂. Length 7 mill. Width 3 mill.

Piceous, upper surface aeneous, side margins of labrum and clypeus, base of mandibles, palpi, mentum, antennae, legs, margin of prothorax (widely), side and apical margins of elytra (the latter more widely), epipleurae of prothorax and elytra, and sides of abdomen reddish-testaceous, undersides of middle and hind femora each with two dark longitudinal streaks, apex of hind trochanters infuscate.

Head wide, convex, moderately shiny, closely and finely punctate, frontal foveae rounded, rather shallow, clypeus truncate with a seta on each side, suture well marked, mandibles strong, blunt, eyes prominent, nearly reaching buccal fissure, antennae reaching a little beyond base of prothorax, first two joints glabrous.

Prothorax transverse, hardly wider than head, widest at a third from apex, rather flat, but declivous towards front angles, a little emarginate in front, base slightly emarginate in middle, the sides coming forward to meet hind angles; side margins finely bordered, very slightly explanate in front, sides gently rounded, faintly and widely sinuate behind, a seta at two-fifths from apex, none at hind angles, front angles touching neck, hind angles sharp, very little

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more than right; transverse impressions vague, median line reaching apex but not base, well marked only in middle, basal foveae shallow; surface moderately shiny, closely and finely punctate, more closely and confluent at base and sides.

Elytra short, moderately shiny, narrowly bordered, shoulders not much rounded, margin sinuate near apex; striae rather fine, impunctate, a scutellary striole between 1 and 2, intervals flat, closely and finely punctate, rather more coarsely near margins, a large pore on 3, adjoining stria 2, at a third from apex, punctures of marginal series wider apart in middle; testaceous border covering intervals 8 and 9 up to two-thirds from base, then widening out over the apical area, the edge of the aeneous discal area being irregular, with projections towards the apex on intervals 6 and 4.

Underside smooth, but with some fine puncturation along the median line of the body, especially on the prosternal process, metasternum, and basal segment of abdomen, metepisterna elongate, prosternal process not bordered, a few small hairs at apex, two widely distant setae on each side of margin of last ventral segment; testaceous margin not uniform, but formed by a series of small triangular patches, each segment with a small rounded depression on each side. Hind femora compressed and strongly curved (? if natural); tarsi smooth on upper surface, in the hind tarsi $1 = 2 + 3 + 4$; in the type one front leg is wanting, but the first four joints of the other one appear to be slightly dilated, and squamose beneath.

The species is smaller and less elongate than *L. lucens* Bates, with wide testaceous margins to both thorax and apex of elytra, the shallow basal furrows present in *L. lucens* are wanting. Otherwise the species are remarkably alike.

Bates says nothing in his diagnosis of the genus about the ligula and paraglossae; the former is narrow and bisetose at apex, the paraglossae are glabrous and membranous, wider and longer than the ligula, rounded at the sides, with an angle at the apex, not meeting in front. The penultimate joint of the labial palpi is plurisetose. Of the front tarsi in the ♂ Bates says, "quatuor subtus pilis griseis erectis dense vestitis," which is entirely erroneous. The tarsi are, in fact, biserially squamose, as in *Harpalus*; I cannot, however, detect any squamae on joint 1.

30. *Selina* (*Pselaphanax*) *setosa* = *S. westermanni* Motch. (Et. Ent. 1857, 110, t. f. 6). Walker did not recognise the family to which this insect belongs, but put it among the *Pselaphidae*. Schaum redescribed and figured the species

(Berl. Ent. Zeit. 1860, 172, t. 3, f. 11), and three years later (l.c. 1863, 74) created for it—quite unnecessarily—the new genus *Steleodera*. Further observations have been made by Bates (Ent. Month. Mag. viii, 1871, 31, and Ann. and Mag. of Nat. Hist. 5, xvii, 1886, 199), Chaudoir (Bull. Mosc. 1872, i, 396), Mr. R. Oberthür (Notes Leyd. Mus. v, 1883, 223), and Mr. Reitter (Wien. Ent. Zeit. ii, 1883, 96). C. O. Waterhouse figures the species in his “Aid to the Identification of Insects” (xv, 1882, t. 120, fig.).

The species occurs all over India, and in the British Museum Collection there is an example labelled “Hong-Kong.” Mr. Vitalis de Salvaza has recently sent a specimen from Cambodia.

* * * * *

Tachys rufulus. Putzeys (Ann. Mus. Civ. Gen. 1875, 737) refers to a *Tachys rufulus* Walk., and Bates also mentions it (p. 212), but I have been unable to find any description and should be grateful to any one who could tell me where it appeared. I fancy it will prove to be a MS. name. There is no trace of any specimen bearing this name in the British Museum Collection.

PASCOE.

Only one type is in the British Museum Collection.

Omophron bretinghamae (Journ. of Entom. i, 1, 1860, 38). Chaudoir gives a few notes on the species in his “Note monographique sur le genre Omophron” (Rev. et Mag. Zool. 1868, 56). See also Dr. Rousseau (Gen. Ins. Omophroninae, 1908, 3). Dr. Gestro (Ann. Mus. Civ. Gen. 1888, 172) described a species taken by Mr. Fea in Burma as *O. levigatus*, and Bates refers to this in his detailed work on Mr. Fea’s Carabidae (Ann. Mus. Civ. Gen. 1892, 269). Dr. Gestro, who suspected that his insect might be the same as Pascoe’s, tells us that he sent a specimen to Bates, who compared it with the type of *bretinghamae*, and decided that the two species were different. In my collection is a cotype of *O. levigatus*, which I have compared with Pascoe’s type; I find the two specimens to be exactly alike. Possibly the species is a variable one. Pascoe’s locality was Dacca, Dr. Gestro’s Teinzo (Upper Burma). I know of no other.

CHAUDOIR.

Opisthius indicus (Ann. Soc. Ent. Fr. 1863, 449). Until

I read the description of this species I was not aware that there was a single type of Chaudoir in the British Museum. However, at the end of his description Chaudoir remarks: "Cette intéressante espèce, qui habite le nord de l'Inde, fait partie de la collection du Musée britannique, où elle n'est représentée que par un individu unique." This individual, unique no longer, was placed in the collection alongside another example labelled in Mr. René Oberthür's handwriting, "Comparé au type." It would appear, therefore, that there is another "type" in his collection, but the description leaves no doubt as to the authenticity of the British Museum example. This is one of the very few Chaudoir types not in Mr. Oberthür's Collection.

This genus has been dealt with by Commandant Dupuis (Gen. Ins. Opisthiinae 1912, 2), and *O. indicus* appears on the plate, figs. 1 and 8-10. The species seems to be common where it occurs; Mr. H. Stevens has taken it in considerable numbers at Nagri Spur, near Darjiling (Sikkim), and once at 9000 ft. at Kalapokri in Eastern Nepal. The type came from "N. India," and other examples in the British Museum come from Mungphu and Khamba Jong, both in Sikkim (the latter at 15,000-16,000 ft.), and Guentok.

H. W. BATES.

When Bates was describing a new species he did not make a practice of designating a particular insect as the "type," so that, except in the case of unique specimens, there is only a typical series. In such cases it is I believe the practice, and I think rightly so, of indicating as the type the specimen labelled by the author in his own handwriting; if more than one specimen is so labelled, the one most nearly agreeing with the description will be chosen. I mention this matter because there are two important collections of Oriental Carabidae now in the British Museum, both made by Mr. George Lewis, one in Ceylon, the other in Japan, the new species in which were described by Bates, the Ceylon collection in Ann. and Mag. of Nat. Hist. 5, xvii, 1886, and the Japanese collection in Trans. Ent. Soc. Lond. 1873, 1876, and 1883. The new species are numerous, and specimens labelled by Bates are indicated as the types. I think it quite unnecessary to go through the long list.

The types of the "new genera and species of Geode-

phagous Coleoptera from China" described by Bates in Trans. Ent. Soc. Lond. 1873 are not in the British Museum.

In addition to the above, types of four species of Carabidae from N. Borneo (Mt. Kinibalu), from the collection of the late Alexander Fry, are now at South Kensington. These are as follows:—

1. *Simous borneensis* (Proc. Zool. Soc. 1889, 384). Found also in S.E. Borneo.

2. *Colpodes fryi* (l.c. 384).

3. *Euplynes aurocinctus* (l.c. 384). Taken also by Dr. Beccari in Sumatra, and by Mr. G. E. Bryant at Quop, W. Sarawak.

4. *Dinopelma plantigradum* (l.c. 385). A second specimen is in my collection.

C. O. WATERHOUSE.

Of these more modern types I need, I think, give a list only.

1. *Callida terminata* (Trans. Ent. Soc. 1876, 11). Borneo (Sarawak).

2. *Catascopus cupreicollis* (l.c. 1877, 1). Andaman Is.

Bates points out (Ann. Mus. Civ. Gen. 1892, 410) that, apart from colour, there is nothing to distinguish this species from *C. aeneus* Motch. (Bull. Mosc. 1864, iv, 303) = *C. fuscoaeneus* Chaud. (Rev. et Mag. Zool. 1872, 247) from Burma, Malay Peninsula, Siam, and Indo-China. There is, however, some little doubt about the identification of Motchulsky's species.

3. *Adelotopus collaris* (l.c. 1877, 2). Siam.

4. *Cryptocephalomorpha (Adelotopus) marginata* (l.c. 1877, 2). Java.

Ritsema points out (Tijds. v. Ent. xxii, 1879, Verslag. 87) that Waterhouse's species is identical with his previously described *Cryptocephalomorpha gaverei* (l.c. xviii, 1875, Verslag. 93).

5. *Pausotropus parallelus* (l.c. 1877, 3). Batchian.

6. *Callistomimus dicksoni* (Ann. and Mag. of Nat. Hist. 5, xiv, 1884, 429). Formosa.

G. LEWIS.

Mouhotia convexa (Ent. Month. Mag. xix, 1883, 193). Laos.

G. J. ARROW.

1. *Pheropsophus nigricollis* (Trans. Ent. Soc. 1901, 203, t. 9, f. 2). S. India (Bangalore).
2. *Pheropsophus bimaculatus* L. var. *posticalis* (l.c. 203). S. India (Mt. Kodeicanel).
3. *Pheropsophus curtus* (l.c. 204, t. 9, f. 3). S. India (Malabar, Kanara).
4. *Pheropsophus heathi* (l.c. 205, t. 9, f. 1). Burma (Maulmein).

MOTCHULSKY.

Motchulsky's collection, formerly in Moscow, is understood to have perished as a result of neglect—a matter of special regret in view of the numerous and very imperfect descriptions of this author. Some reputed "typical" specimens, however, are in existence in foreign Museums and private collections. A few such specimens, all from Ceylon, found their way into F. Walker's Collection, now incorporated in that of the British Museum; Motchulsky and Walker were describing Ceylonese insects at about the same time, and no doubt some exchanges were made between them. The specimens in question, according to the British Museum Register, were typical examples from Motchulsky's Collection, so that they may be regarded as cotypes, and have consequently considerable importance. Unfortunately they are few in number and poor in quality. They are all small species, mounted on shiny cardboard, generally much blackened on the upper surface. The species are as under:—

Amblystomus (Hispalis) fuscescens (Et. Ent. 1858, 23).
1 ex.

Tachys flaviculus (l.c. 1859, 39). 1 ex.

This example exactly resembles *T. infans* Bates (Ann. and Mag. of Nat. Hist. 5, xvii, 1886, 154), and no doubt they are the same species, though there are only three juxtapural striae on each elytron instead of four, as in Motchulsky's description. I have seen examples from Perak, Penang, Philippine Is., and Hong-Kong. Bates records it also from various parts of Burma (Ann. Mus. Civ. Gen. 1892, 294).

Tachys suturalis (Bull. Mosc. 1861, iv, 508). 2 ex.

Tachys (Lopha) ovatus (l.c. 509). 1 ex.

A widely-spread Eastern species, described also from Hong-Kong by Schaum as *T. albicornis* (Berl. Ent. Zeit. 1860, 199). I have seen specimens from Ceylon, various localities in India, Burma, Malay Peninsula, Hong-Kong, and Celebes.

There is an example in the British Museum labelled "N. China," but I think this probably refers to the neighbourhood of Hong-Kong.

Tachys politus (l.c. 509). 1 ex.

A very common species, which is probably identical both with Nietner's *T. (Bembidium) ebeninus* (Ann. and Mag. of Nat. Hist. 3, ii, 1858, 424) and Putzeys' *T. bioculatus* (Ann. Mus. Civ. Gen. 1875, 743).

Tachys sulcatus (l.c. 509). 1 ex.

There are a few examples from the Jekel Collection, some of them mounted on the same shiny blackened card-board, which are probably also from the Motchulsky Collection, but satisfactory evidence is wanting.

II. *Types in the Hope Department of the Oxford University Museum.*

These are to be found either in the Hope Collection proper, or in the more recently acquired Chevrolat Collection. I will deal with these separately.

(1) *Hope Collection.*

HOPE.

Although Hope put manuscript names on a large number of the specimens of Oriental Carabidae in his collection, he actually described very few of them. Most of the published descriptions appeared in the Coleopterist's Manual, vol. ii, regarding which I give some notes below. In the Transactions of the Zoological Society, i, 1833, pp. 91-3, Hope also published "Characters and Descriptions of Several New Genera and Species of Coleopterous Insects." Two of the three species of Carabidae were figured and the figures are well executed; the descriptions too are fuller and better than those referred to elsewhere. These insects formed part of the Sykes Collection, which seemed to have disappeared altogether until quite recently

I found one of the three types in question at Oxford. The other two cannot at present be found, but I give a few notes on all three.

1. *Anthia* (*Pachymorpha*) *orientalis* (Col. Man. ii, 1838, 163, t. 3, f. 4).

Hope proposed his genus (l.c. 51) for the Asiatic as distinguished from the African species of the genus *Anthia*, but the name is now used only as a group index. I consider *A. orientalis* a local race of *A. sexguttata* F. (Syst. Ent. 1775, 236), though Chaudoir (Bull. Mosc. 1861, ii, 563), Motchulsky (Bull. Mosc. 1864, iii, 216), and Bates (Scient. Results of Sec. Yark. Miss. 1891, Col. 19) all treated it as a distinct species. See also Obst's "Synopsis des Col. Gen. *Anthia*" (Arch. für Naturgesch. 1901, 286), and Dr. Rousseau (Gen. Ins. Anthiinae, 1905, 5).

The type of *A. orientalis* is much smaller than the ordinary *A. sexguttata*-form, and (including mandibles) is only 24 mill. in length. The proportions are about the same, but the head is less inflated. The puncturation of the elytra, especially towards the apex, is much finer and closer, and near the apex the surface is finely rugose. The coarse erect pubescence is black (or dark brown), as in the *sexguttata*-form, but the fine recumbent pubescence is brown (in other examples, however, this recumbent pubescence is grey-black). The fourth and fifth ventral segments, though with a few stray punctures, are very smooth along the median line.

Hope seems right in thinking that *A. orientalis* is confined to Western India. The type came from the neighbourhood of Poona, and other examples in the British Museum come from Bangalore. He mentions also a specimen from the Himalayas, but it is to be noted that N. Indian examples, though in other respects resembling *A. sexguttata*, are generally much smaller than those from S. India, viz. about 35 mill. against 45 mill.

2. *Catascopus whithilli* (l.c. 164, t. 3, f. 2). Hope says: "This magnificent insect is named in honour of Col. Whithill, who brought it with him from Darpouillie." I imagine that this locality is in N. India; I have not, however, so far been able to identify it, and shall be glad of information as to its whereabouts. The species does not seem a common one, but I have seen examples from all the three Indian Presidencies, and Commandant Dupuis records it from Laos (Ann. Soc. Ent. Belg. 1914, 119). I cannot find that

anything more than Hope's brief diagnosis has ever appeared, so I give a description.

Catascopus whitthilli. Length 20 mill. Width: head and prothorax 4 mill, elytra 6 mill.

Blue-violet; middle of sterna, ventral surface (hind margins of segments lighter), epipleurae of elytra (more or less), coxae, trochanters, underside of femora, and joints 5-11 of antennae reddish-brown; clypeus, labrum, palpi and joints 1-4 of antennae (apex of joints lighter), tibiae and tarsi piceous.

Head large, shiny, gradually narrowed behind eyes, moderately punctate on vertex and at sides, frontal foveae short but moderately deep, a single short ridge on each side close to eye, clypeus with a seta near each front angle, eyes prominent, mandibles strong, hooked at tip, antennae reaching a little beyond base of prothorax, pubescent from middle of joint 4.

Prothorax cordate, convex, shiny, moderately transverse, widest at a fourth from apex, emarginate in front, faintly bisinuate behind, sides gently rounded in front, sinuate long before base, side margin narrowly bordered and reflexed, a seta at a third from apex and another at hind angle; front angles well marked but rounded, hind angles right, base with a narrow border; transverse impressions, median line, and basal foveae all strongly marked, a vague shallow impressed line running parallel with side margin and at a little distance from it; surface smooth, with very fine transverse wrinkles.

Elytra relatively short, parallel, very square at shoulders, sides rather compressed and margin sinuate at a third from base, apical truncature emarginate, outer angle toothed, inner angle narrowly truncate; punctate-striate, the punctures much stronger at sides, a rather deep scutellary striole between 1 and suture, intervals rather flat on disk, faintly depressed at about first third, 3 slightly raised over a short distance near base, 5 and 7 carinate up to two-fifths from apex, a pore close to base between 1 and scutellary striole, 3 with five pores nearly evenly distributed along its length, marginal pores rather far apart, closer near shoulder, with very long setae.

Underside smooth, shiny, middle of sterna and base of first ventral segment more or less punctate and pilose, prosternal process not bordered, punctate and pilose, metepisterna long, narrow, smooth, and deeply channelled, last ventral segment bordered on outer margin, a seta on each side in ♂, 2 setae in ♀.

Tarsi hairy on upper surface, ♂ with three first joints of front tarsi moderately dilated, and clothed beneath with white filamentous scales.

Much larger than *C. facialis* Wied. (Zool. Mag. i, 3, 1819, 165). The blue colour has more violet in it, and no green reflections; head smoother, but punctures larger, without longitudinal striation at sides of front; front angles of prothorax more rounded and basal transverse depression deeper; the carinae on intervals 5 and 7 of elytra sharper, though not extending quite so far towards apex, interval 3 with five (instead of three) pores, tooth at outer angle of truncature not so sharp.

3. *Macrochilus bensoni* (l.c. 166, t. 1, f. 5). An example marked "type"; for reasons already given, I consider the "type" to be in the British Museum.

4. *Chlaenius nepalensis* (Zool. Misc. 1831, 21). There is also an example of this species marked "type," to which I have already referred in my remarks (under HOPE) on the Hardwicke Collection, now in the British Museum.

5. *Gnathaphanus licinoides* (Ann. and Mag. of Nat. Hist. ix, 1842, 427). This is a well-known Australian species, but I mention it here because its habitat extends to New Guinea. It was described again by Montrouzier (Ann. Soc. Ent. Fr. 1860, 240) as *Catadromus? impressus*, and by Castlenau (Notes on Australian Coleoptera 1867, 99) as *Harpalus alternans*. Mr. T. G. Sloane has published a table (Deutsch. Ent. Zeit. 1907, 468) differentiating this and allied species. In addition to Australia and New Guinea, the species is found in New Caledonia.

6. *Brachynus (Aploa) pictus* (Trans. Zool. Soc. i, 1833, 92, t. 13, f. 1). Sykes Collection: type lost. Subsequently described by Chaudoir (Bull. Mosc. 1852, i, 41) as *B. figuratus*. The species is omitted from the Munich Catalogue. When Chaudoir came to write his "Monographie des Brachynides" (Ann. Soc. Ent. Belg. 1876), he had discovered Hope's description, and the species appears correctly under the name of *pictus* (p. 54). It is a well-known species, closely allied to *B. nobilis* Dej. (Spec. Gen. v, 1831, 415) from N. E. Africa, but differing widely in appearance from most other species of the genus. Hope's type, like the other two described from the Sykes Collection, came from Poona, and I have records also from Bengal, Delhi, Nagpur, Belgaum (Bombay), S. India, and Ceylon. At Oxford there is a specimen labelled "Siam"—the only extra-Indian locality I have come across—and this is possibly inaccurate.

7. *Calosoma orientale* (l.c. 92). Sykes Collection: type

lost. I think this species is identical with Chaudoir's *C. squamigerum* (Ann. Soc. Ent. Fr. 1869, 368). Hope's description here is a little thin, but as far as it goes it agrees fairly with Chaudoir's, and no other species of *Calosoma* is known as yet from Central and Southern India. Hope's type came from Poona, and Chaudoir's two specimens came from Bengal and Coimbatore (Madras). I have records also from Khandwa (Central Provinces), Nasik (Bombay), and Manaparai (Madras).

8. *Chlaenius sykesi* (l.c. 93, t. 13, f. 2). Until quite recently I believed that this, like the other Sykes types, was lost, but it has turned up in the Hope Collection, though in a very battered condition. The species belongs to the group designated *Homalolachnus* by Laferté (Ann. Soc. Ent. Fr. 1851, 233 and 293); and retained by Chaudoir in his Monograph. Chaudoir did not possess it, and omits all reference to it, as does the Munich Catalogue (see Bates, Notes Leyd. Mus. xi, 1889, 207). It is closely allied to *C. sexpunctatus* Dej. (Spec. Gen. v, 1831, 616) from Abyssinia, but even more closely to *C. panagaeoides* Laf. (l.c. 235) from Malabar. The type came from Poona, and I took another example (♀) also at Poona in the year 1887; a third example (♀) in the British Museum is labelled "India" only. I give below a detailed description, but as the type is too fragmentary for this purpose, I have described my own specimen, after comparing it, as far as circumstances permit, with the type.

Chlaenius sykesi, ♀. Length 19 mill. Width: head 3·5, prothorax 5·5, elytra 8 mill.

Black, underside iridescent. Head aeneous-green, prothorax with faint greenish reflections, elytra sericeous, three spots on each elytron and labrum yellow, first three joints of antennae and tips of palpi red.. Upper surface covered, but not at all densely, with a pubescence of short black and yellow hairs.

Head convex, moderately shiny, not contracted behind, coarsely but not closely punctate, with a few finer punctures, frontal foveae very faint, slightly furrowed near eyes, a large pore and seta on each side of clypeus, midway between base and apex; last joint of maxillary palpi moderately, of labial palpi more strongly dilated, eyes rather flat, antennae reaching beyond base of thorax, joint 3 two and a half times as long as 1, half as long again as 4.

Prothorax convex, moderately transverse, widest rather behind middle, narrower at apex than base, truncate at extremities, sides

gently rounded, narrowly bordered, with a long seta at about a fifth from (apparent) base, front angles hardly, hind angles almost completely rounded; transverse impressions obsolete, median line faint, basal foveae small, round, shallow; surface coarsely, densely, and confluent punctate.

Elytra convex, rather elongate, not wider at base than prothorax, dilated behind, widest at three-fifths from base, very finely bordered, margin faintly sinuate behind shoulders and again near apex; punctate-striate, a rather long scutellary striole between stria 1 and suture, marginal series interrupted in middle, intervals nearly flat, each with two more or less regular rows of setiferous umbilicate punctures, 2 and 3 (but only on disk) with a few similar punctures on middle of intervals; front yellow spot roughly rounded, covering the shoulder and extending inwards to stria 3, middle spot rather larger and a little transverse, reaching stria 2, on interval 9 the colour running forward a little way towards the front spot, hind spot near apex, equal to front one and also rounded, extending inwards to stria 3, all spots reaching margin, but leaving the narrow border black, tapering a little towards suture.

Underside shiny, all sterna and episterna coarsely but rather sparsely punctate, meso-episterna only on anterior half, ventral surface fairly strongly punctate at sides, very finely and sparsely in middle, prosternal process unbordered, pilose, metepisterna as long as wide, last ventral segment with half a dozen pores along margin on each side.

Closely allied to *C. panagaeoides* Laf., but considerably larger and distinguished at once by the presence of six yellow spots on the elytra instead of 4. Head more strongly punctured, eyes not quite so flat, prothorax much less contracted behind, elytral intervals flatter, colour of spots darker.

GRAY.

Orthogonius hopei (Griffith's Animal Kingdom, Col. i, 1832, 273, t. 13, f. 4). Described again in the following year by Gory (Ann. Soc. Ent. Fr. 1833, 196) under the name of *O. malabariensis*. Gray's species was said to come from India; the type bears a label, which I am unable to read. Gory's species was said to come from Malabar. Provisionally I disbelieve both these statements. Chaudoir, in his "Essai monographique sur les Orthogoniens" (Ann. Soc. Ent. Belg. xiv, 1871, 103), describes the species and tells us that he possesses two

specimens, one of which (Gory's type) "était indiqué comme venant des Indes orientales," the other coming from Malacca.

In the British Museum there are examples from Malacca, Singapore, Penang, Tringanu, Pulo Aor (wherever that may be), and the N.E. coast of Sumatra. If Gray had no better indication of origin than the label on the type specimen, I do not know how he squeezed "India" out of it. Gory possibly misread "Malacca" for "Malabar." At all events I have seen no examples from India, and I regard the species as a Malay one.

W. W. SAUNDERS.

Catascopus wallacei (Trans. Ent. Soc. 1863, 462, t. 17, f. 4). There is in the Hope Collection a damaged specimen of this species, without a head, claiming to be the type. It seems unlikely that one solitary type should have been detached from all the others described by Saunders in his paper. Mr. O. E. Janson tells me that the Saunders Collection of Carabidae was sold to Mr. Edwin Brown, and that on his death it was resold and probably went abroad. The species comes from Waigiou.

PUTZEYS.

There are four types of *Clivina*, all described by Putzeys in his "Monographie des *Clivina* et genres voisins" (Mém. Liège, ii, 1846). The original descriptions are long and detailed, and no redescription appears necessary, though I give a few notes.

1. *Clivina assamensis* (Mon. 584 (66)). I cannot find any mention of this species since the description was published. Putzeys' account of the head does not seem to me quite accurate, and the mentum—a very curious organ—is hardly mentioned.

The sides of the mentum are nearly parallel, lobes obliquely truncate in front, epilobes projecting very slightly in front, general surface shagreened, surface of lobes slightly striate, middle of basal area raised and longitudinally furrowed, tooth in the form of a cup, the concave area directed forwards, the upper margin projecting beyond the lower and a little emarginate, the lower margin forming a small rounded knob projecting downwards.

Head with a curved ridge in front, convex part directed forwards, as in *C. indica*, a little behind and parallel with this a slight curved

furrow, and behind this another slight furrow curved so that the convex part faces backwards, on each side of middle of front a deep pit, with a short transverse furrow behind it; neck strongly punctured, two or three ridges between front and frontal plates. Hind angles of prothorax rounded, lateral grooves shallow, crenulate, extending to front margin. Elytra with striae 1-4 free at base, interval 3 without pores, 8 joining 7 before base, 6 at base, all a little carinate at base, 8 carinate at apex. Prosternal channel narrow; underside finely punctured, except along median line, last three ventral segments bordered, two setae—rather distant from each other—on each side of last one.

2. *Clivina indica* (Mon. 585 (67)). One of the best-known and most widely distributed Eastern Clivinas. It was redescribed by Nietner (Journ. As. Soc. Beng. 1856, v, 390) as *C. rugosifrons*, and two years later by Walker (Ann. and Mag. of Nat. Hist. 3, ii, 1858, 203) as *C. recta*. I have seen examples from numerous localities in India, Ceylon, Burma, and Indo-China. In India the average length is 8 mill., but in Indo-China it is only 6·5 mill.

3. *Clivina melanaria* (Mon. 586 (68)) = *C. (Scarites) attenuata* Herbst (Nat. Ins. Käf. x, 1806, 264, t. 176, f. 7). Also described by Bonelli (Obs. Ent. ii, 1813, 481) as *C. picipes*. A common species in N. India, but I have not seen examples from any places further South than Nagpur (Cent. Prov.), and Bandra and Kalyan (Bombay). A local race was described by Bates from Bhamo (Ann. Mus. Civ. Gen. 1892, 275) as var. *bhamoensis*. The species reappears in Indo-China, where the dimensions, as in the case of *C. indica*, are 6·5 mill., compared with 8 mill. in India.

4. *Clivina striata* (Mon. 592 (74)). Very closely allied to *C. attenuata* Herbst, the points in which it differs being well brought out by Putzeys. I have found no references to this species in entomological literature. It is fairly common in Southern India, and extends about as far towards the North as *C. attenuata* does towards the South.

(2) *Chevrolat Collection.*

CHEVROLAT.

Among the types of Oriental Carabidae in this collection there are two described by Chevrolat himself.

1. *Pericallus guttatus* (Mag. Zool. 1832, cl. ix, t. 46).

The description does not go into great detail, but it has been expanded by Chaudoir (Berl. Ent. Zeit. 1861, 123) and Commandant Dupuis (Ann. Soc. Ent. Belg. 1913, 82). The type came from Java, and so did nearly all the examples I have seen. There are, however, two specimens in the British Museum labelled respectively "India," and Mungphu (Sikkim): I think these indications should be accepted with reserve.

2. *Gnathaphanus (Amblygnathus) philippensis* (Rev. Zool. 1841, 221). Two examples (♂ ♀), without any indication as to which is the type. Chevrolat probably had both examples before him, and I think they may fairly be treated as the ♂ and ♀ types. These came from Manila, but the range of the species is from S. India to tropical Australia. W. Macleay, jun., described it from Port Denison (Trans. Ent. Soc. N.S.W. 1864, i, 117) under the name of *Pachauchenius laeviceps*, and Chaudoir added some further notes (Ann. Mus. Civ. Gen. xii, 1878, 511). Bates records the species from Rangoon, Chaudoir from Queensland, and Mr. Sloane adds Celebes and New Guinea. I have seen Indian specimens from Belgaum and Kanara (Bombay), and Virsee (Central Provinces). I believe the species to be fairly common in Australia, but it seems to be uncommon in the Indian region.

CASTLENAU.

Chlaenius flavofemoratus (Et. Ent. 1834, 81, t. 1, f. 3). Chaudoir did not apparently know this species, for in his "Monographie des Chléniens" (Ann. Mus. Civ. Gen. 1876, 93) he treats it as a synonym of *C. femoratus* Dej. (Spec. Gen. ii, 1826, 328). This is quite a mistake. It is actually identical with *C. nigricoxis* Motch. (Bull. Mosc. 1864, iv, 339), by which name it has hitherto been known; this name must, however, give place to Castlenau's much earlier one. Chaudoir (Mon. 94) gives a further description of Motchulsky's species, and Bates (Ann. Mus. Civ. Gen. 1892, 312) also has a reference to it. The type came from Java, Motchulsky's species from Hong-Kong. Bates mentions Bhamo, Palon, and Karin Cheba (Burma); also Laos in Indo-China.

PUTZEYS.

There are in the Chevrolat Collection some *Clivina* types and cotypes. Putzeys' types seem to be scattered, and

without an examination of foreign collections, it is impossible to decide whether certain specimens are types or not.

1. *Clivina agona* (Rév. gén. des Clivinides, Ann. Soc. Ent. Belg. x, 1867, 131). After the description we read, "Rapporté de Siam par M. de Castelnau 1 ind." The label is marked "Siam Castelnau type," and there seems no reason to doubt that this specimen is actually the type of the species, though I find nothing in Putzeys' writings to indicate that it was in the Chevrolat Collection. The species, of which I have seen no other example, is very much like *C. castanea* (see under WESTWOOD), and the only material difference I can detect between them is in the sculpture of the thorax. In *C. castanea* the surface is smooth or only slightly wrinkled; in *C. agona* the transverse wrinkling is very marked. The longitudinal wrinkles are not so apparent; they are situated on each side of the median furrow, and though irregular run parallel with it; they may sometimes be seen indicated in *C. castanea*. The finely punctured spaces on the disk I have never seen on any of the numerous specimens of *C. castanea* I have examined. It is possible that this surface structure may be individual, and one would like to see more Siamese specimens. Bates thought *C. agona* a variety only of *C. parryi* Putz. (= *C. castanea* West.), but for the present I treat it as distinct.

2. *Clivina transversa* (Rév. gén. 125). This is also a specimen taken by Castelnau in Siam, but it does not claim to be the type. Putzeys says, "Siam 1 ind. communiqué par M. Signoret." I have not been able to learn what became of the Signoret Collection.

I know of only one other reference to the species, viz. by Bates (Ann. Soc. Ent. Fr. 1889, 262), who gives Mytho (Indo-China) as a locality.

3. *Clivina siamica* (Rév. gén. 124). Six examples, all taken by Castelnau in Siam. These are possibly all cotypes, and the labelled specimen may be the type, though this is not indicated. Putzeys had before him 7 examples taken by Castelnau in Siam. Bates (Ann. Soc. Ent. Fr. 1889, 261) identified some examples from Saigon as belonging to this species.

I think *C. siamica* may prove to be identical with *C. lobata* Bon. (Obs. Ent. ii, 1813, 481), but I have not the means at present of deciding this point.

4. *Clivina javanica* (Mon. des Clivina et genres voisins, Mém. Liège, ii, 1846, 592 (74)). The description is followed by the note "Java 1 ind. Coll. Chevrolat." In going through the collection I was unable to find any specimen labelled *C. javanica*. I found, however, an example labelled "*Clivina indica* (D. Bardel)," which has nothing to do with *C. indica*, and (except that the lateral groove on the thorax does not quite reach the anterior margin) agrees with the description of *C. javanica*. This specimen does not claim to be a type, but it is possible that some accidental confusion of labels has occurred, and in default of other competitors with better claims, I think it may be regarded as the probable type of the species. In the "Révision générale" (p. 124) Putzeys mentions another specimen in his own collection from the same locality, and Bouchard (Ann. Soc. Ent. Fr. 1903, 169) also records the species from Java.

5. *Clivina ephippiata* (Mon. 602 (84)). Putzeys says, "Java 1 ind. Coll. Chevrolat," but I actually find two specimens designated "type," one labelled "Java" twice over, the other labelled "Java" on one ticket and "Macassar" on another. In his "Postscriptum ad Cliv. Mon." (Mém. Liège, xviii, 1863, 29) Putzeys remarks, "J'en ai vu un individu de Macassar. J'en possède deux que j'ai reçus de M. Stevens comme venant des Iles Célèbes." In the "Révision générale" (p. 185), the other localities have disappeared, and we are confronted with "Iles Célèbes" only. It appears certain that one of the two Oxford specimens is the type, but there seems no longer any means of ascertaining which of the two enjoys that distinction.

There is one specimen from Java in the British Museum, and I have one in my own collection, received from Mr. Sloane, labelled "Sukabumi" (E. Java).

6. *Clivina lobata* (Bonelli, Obs. Ent. ii, 1813, 481; Dejean, Spec. Gen. i, 1825, 414). Though this species was not described by Putzeys, I mention it here because he makes it the type of a considerable group. He did not know Bonelli's type, but, for reasons given in the "Révision" (p. 120), he considered that Dejean's was identical with it. These reasons seem to me inadequate, but until Bonelli's type (if it still exists) is available for examination, the question must remain open. In the Chevrolat Collection there are two examples, one from Bengal, the other

labelled "Ind. Or." and claiming to be a type of Dejean's *C. lobata*. I think this unlikely, but it was probably compared with Dejean's type. Putzeys says (Mon. 599 (81)), "Indes Orientales (Bengale). 2 ind. coll. Dejean. 1 ind. coll. Chevrolat sous le nom de *Cliv. fodiens* Illig." I have seen nothing with any such label attached. Redtenbacher (Reis. Novar. Zool. ii, Col. 1867, 8) records what he takes for this species from Shanghai.

7. *Ancus excavaticeps* (Rév. gén. 199). The locality is Siam, and Putzeys adds to his description, "J'en ai examiné des individus dans les Collections de M. de Chaudoir, Signoret, et Chevrolat." At Oxford there are 5 examples taken by Castelnau in Siam. The labelled specimen might be regarded as the type, but in any case I think they may all be considered as "cotypes."

Mr. Sloane kindly sent me two examples, also from Siam, and there are six specimens in the British Museum, three labelled "Siam" (ex coll. Bowring) and three labelled "Malay-Castelnau" (ex coll. Fry).

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